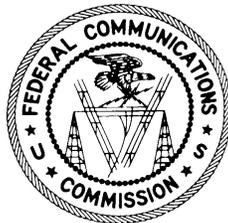


# **Internet Access Services: Status as of December 31, 2009**

Industry Analysis and Technology Division  
Wireline Competition Bureau  
December 2010



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## Internet Access Services: Status as of December 31, 2009

**Introduction.** This report summarizes information about Internet access connections over 200 kilobits per second (kbps) in at least one direction in service in the United States on December 31, 2009, as collected by FCC Form 477. Form 477 gathers standardized information about subscribership to Internet access services in the fifty states, District of Columbia, and inhabited insular areas (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and U.S. Virgin Islands). The information is reported by telephone companies, cable system operators, terrestrial wireless service providers, satellite service providers, and other facilities-based providers of advanced telecommunications capability.<sup>1</sup>

The report reflects the Commission's continued efforts to improve the way it collects, uses, and disseminates data by focusing on the speeds of the Internet access service connections that are reported in the Form 477 program.<sup>2</sup> Before presenting that information, we note two important points about the Form 477 data.

- First, the data track *subscribership*, or *adoption*, of services of different speeds; they do not directly measure the *availability* of services of different speeds. That is, if service connections of different speeds are *available* to a particular consumer for purchase – from one or more suppliers – then the only connection that will be counted by Form 477 is the one the consumer actually purchases.
- Second, the reported connection speed is typically based on the advertised speed of the purchased service, such as the advertised “up to” speed of a wired service or the advertised range of “typical speeds” of a mobile wireless service. It is possible that the purchased service will not operate at its advertised speed at all times. Elsewhere, the Commission is exploring the size and causes of differences between advertised connection speeds and the speeds experienced by consumers.<sup>3</sup>

This is the third report to include details about subscribership differences among census tracts and counties, as well as subscribership differences among the states.<sup>4</sup> And we continue to illustrate correlations of subscribership and demographic measures including, for the first time in this report, age and race.

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<sup>1</sup> See the Technical Notes and the Glossary that appear at the end of this report for more-detailed information about the Form 477 data collection and the meaning of terms used in this report.

<sup>2</sup> Consequently, some tables and charts have been reordered or revised and new charts have been added. The report traditionally focused more closely on the technologies delivering service to end users, for example, subscribership to cable modem service offered by cable TV systems as opposed to digital subscriber line (DSL) services offered primarily by telephone companies.

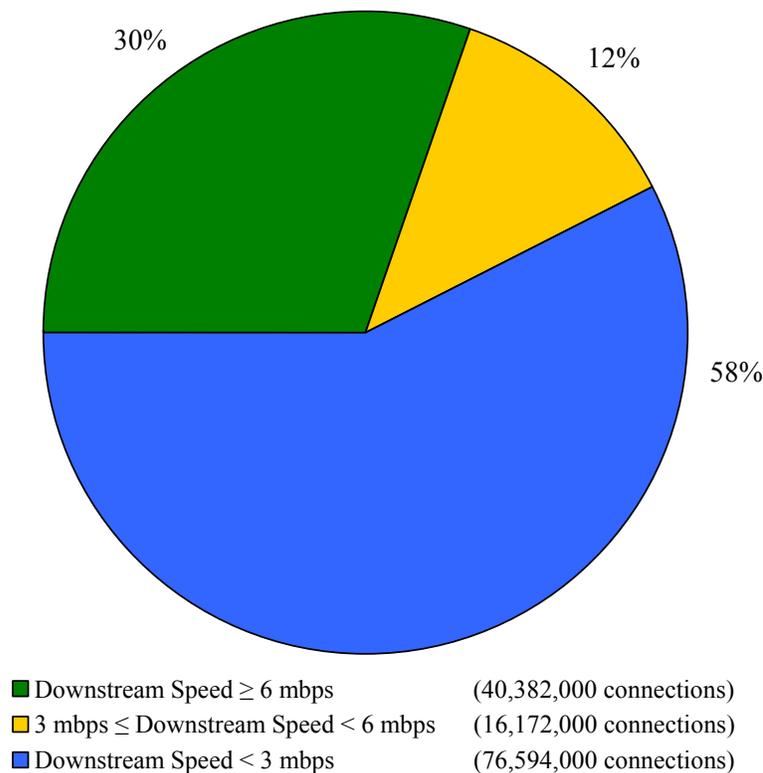
<sup>3</sup> See *FCC Survey Finds 4 out of 5 Americans Don't Know Their Broadband Speeds: Agency Announces Plans for National Speed Testing, Starts Recruiting for 10,000 Volunteers*, News Release (June 1, 2010), available at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-298525A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-298525A1.pdf).

<sup>4</sup> The Form 477 program began collecting state-level data in 2000. Census tract-level data were first collected in December 2008. For an overview of program history, see *High-Speed Services for Internet Access: Status as of December 31, 2008* (February 2010) (*December 2008 High-Speed Report*) at pp. 1-4, available at <http://www.fcc.gov/wcb/iatd/comp.html>. Readers who are interested in historical trends in the Form 477 data should note the changes in reporting requirements that were effective in 2008 and earlier, in 2005.

**Connection speeds.** At present, the Form 477 program categorizes reportable connections into 72 speed tiers defined by eight ranges of downstream speed and nine ranges of upstream speed. In this overview discussion, we organize the extensive information collected for December 2009 into three groups of downstream speeds and three groups of upstream speeds. For the breakpoints between these groups, we use the Form 477-defined breakpoints that the Commission discussed as potential proxies for the broadband availability benchmark adopted in the *Sixth Broadband Deployment Report*.<sup>5</sup> These Form 477-defined breakpoints are 3 mbps and 6 mbps for downstream speeds and 768 kbps and 1.5 mbps for upstream speeds.<sup>6</sup>

Figure 1(a) illustrates how the connections reported for December 2009 were distributed across the three ranges of downstream speed defined by breakpoints at 3 mbps and at 6 mbps.

**Figure 1(a)**  
**Distribution of Reportable Connections (133,148,000) by**  
**Downstream Speed as of December 31, 2009**



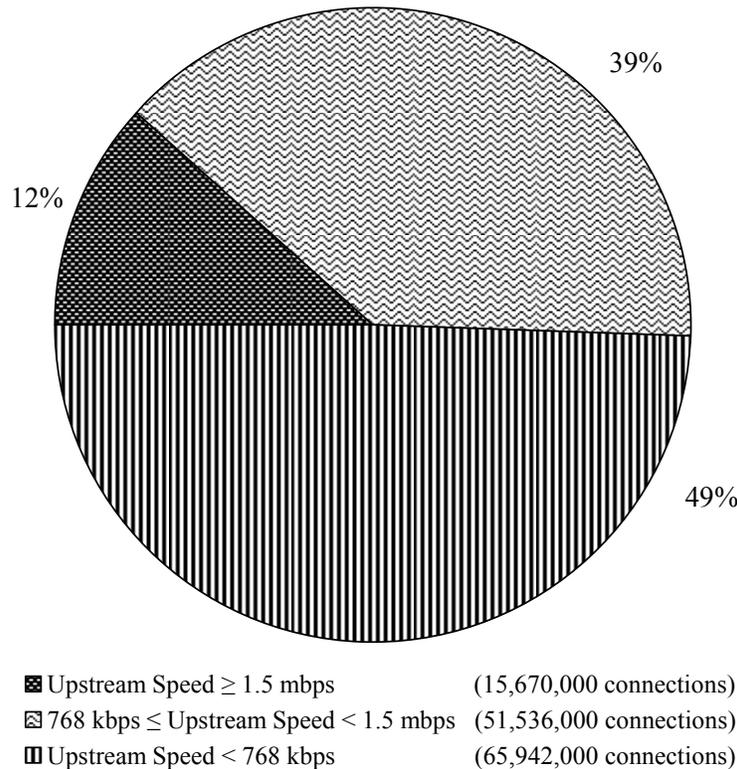
<sup>5</sup> The Commission benchmarked broadband as a transmission service that enables an end user actually to download Internet content at 4 megabits per second (mbps) and to upload Internet content at 1 mbps over the service provider's network. See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, Amended by the Broadband Data Improvement Act*, GN Docket Nos. 09-137, 09-51, Report, 25 FCC Rcd 9556, 9563, para. 11 (2010) (*Sixth Broadband Deployment Report*).

<sup>6</sup> See *Sixth Broadband Deployment Report*, 25 FCC Rcd at 9568, para. 20. As explained there, the Commission decided to evaluate the evidence of broadband availability using the Form 477-defined speed breakpoints of 3 mbps downstream and 768 kbps upstream.

- At year-end 2009, 58% of reportable connections (or 76,594,000 connections) were slower than 3 mbps in the downstream direction, 12% (or 16,172,000 connections) were at least 3 mbps in the downstream direction but slower than 6 mbps, and 30% (or 40,382,000 connections) were at least 6 mbps in the downstream direction.

Figure 1(b) illustrates how the connections reported for December 2009 were distributed across the three ranges of upstream speed defined by breakpoints at 768 kbps and at 1.5 mbps.

**Figure 1(b)**  
**Distribution of Reportable Connections (133,148,000) by**  
**Upstream Speed as of December 31, 2009**

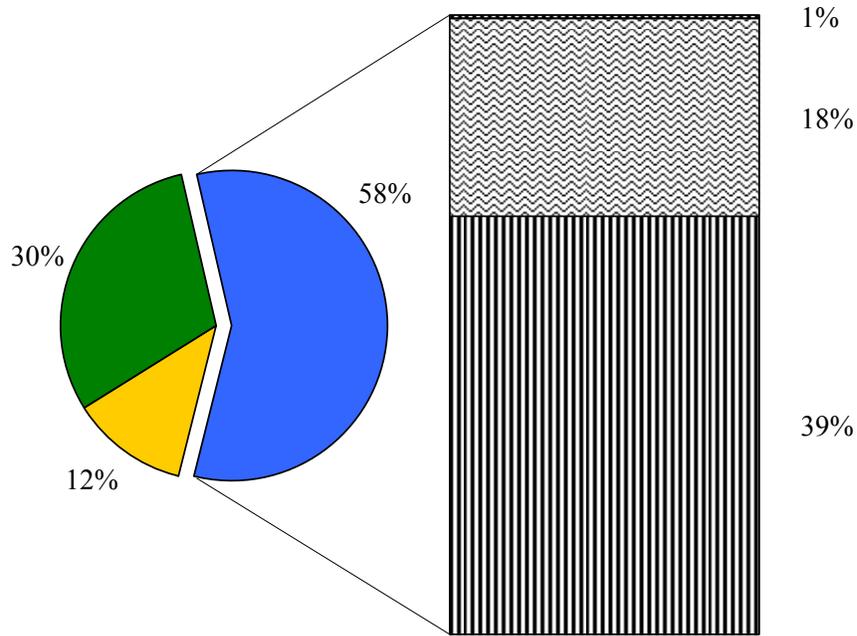


- At year-end 2009, 49% of reportable connections (or 65,942,000 connections) were slower than 768 kbps in the upstream direction, 39% (or 51,536,000 connections) were at least 768 kbps in the upstream direction but slower than 1.5 mbps, and 12% (or 15,670,000 connections) were at least 1.5 mbps in the upstream direction.

In Figures 2(a) – 2(c), we sequentially review the upstream speeds of the connections that fall into each of the three downstream-speed groupings that we illustrated in Figure 1(a).<sup>7</sup>

<sup>7</sup> This narrative discussion of connection speeds is summarized more concisely in Chart 1. Charts 2 - 5 provide additional detail.

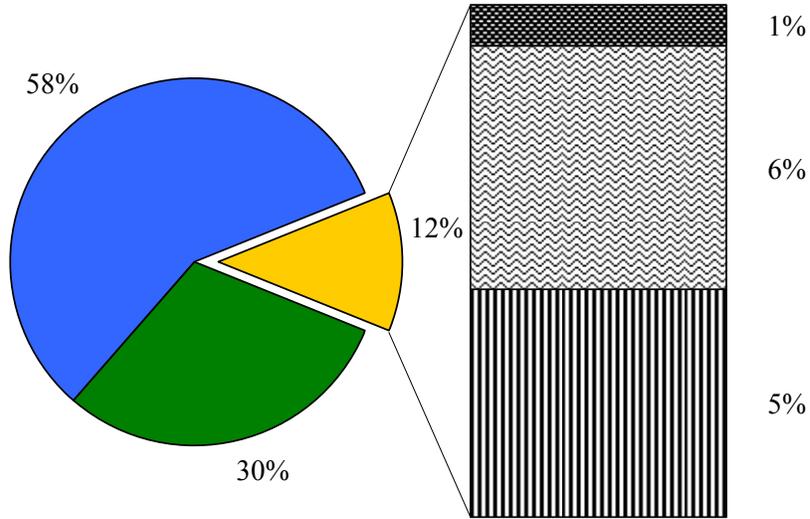
**Figure 2(a)**  
**Distribution by Upstream Speed of Reportable Connections (76,594,000) with**  
**Downstream Speed Below 3 mbps as of December 31, 2009**



- Downstream Speed < 3 mbps -- Upstream Speed  $\geq$  1.5 mbps (676,000 connections)
- ▨ Downstream Speed < 3 mbps -- 768  $\leq$  Upstream Speed < 1.5 mbps (24,346,000 connections)
- ▩ Downstream Speed < 3 mbps -- Upstream Speed < 768 kbps (51,573,000 connections)

- At year-end 2009, about 39% of reportable connections (or 51,573,000 connections) were slower than 3 mbps in the downstream direction and also slower than 768 kbps in the upstream direction.
- Additionally, about 19% of reportable connections (or 25,022,000 connections) were fast enough in the upstream direction (at least 768 kbps) but too slow in the downstream direction (less than 3 mbps) to meet the broadband availability benchmark adopted in the *Sixth Broadband Deployment Report*.

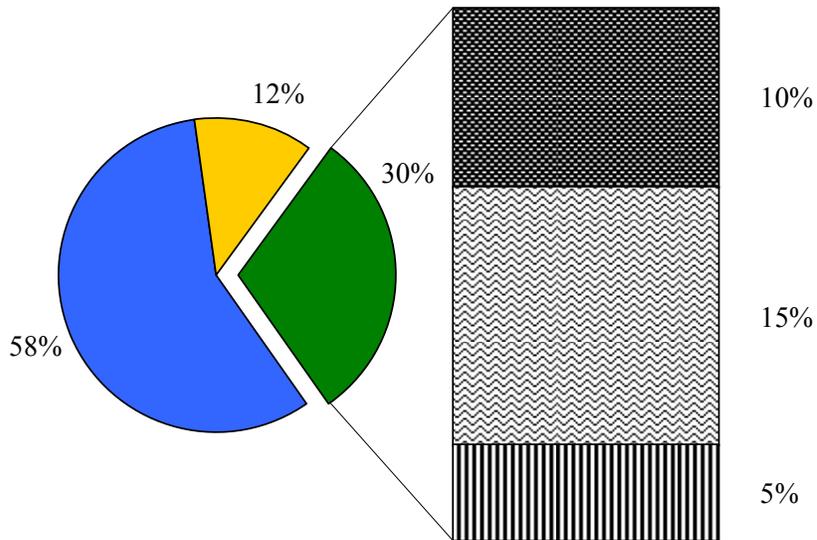
**Figure 2(b)**  
**Distribution by Upstream Speed of Reportable Connections (16,172,000) with Downstream Speed at Least 3 mbps but Below 6 mbps as of December 31, 2009**



- 3 mbps ≤ Downstream Speed < 6 mbps -- Upstream Speed ≥ 1.5 mbps (1,350,000 connections)
- ▨ 3 mbps ≤ Downstream Speed < 6 mbps -- 768 ≤ Upstream Speed < 1.5 mbps (7,669,000 connections)
- ▤ 3 mbps ≤ Downstream Speed < 6 mbps -- Upstream Speed < 768 kbps (7,153,000 connections)

- At year-end 2009, about 5% of reportable connections (or 7,153,000 connections) were at least 3 mbps but below 6 mbps in the downstream direction and were slower than 768 kbps in the upstream direction. These purchased connections are too slow in the upstream direction to meet the broadband availability benchmark adopted in the *Sixth Broadband Deployment Report*

**Figure 2(c)**  
**Distribution by Upstream Speed of Reportable Connections (40,382,000) with**  
**Downstream Speed at Least 6 mbps as of December 31, 2009**

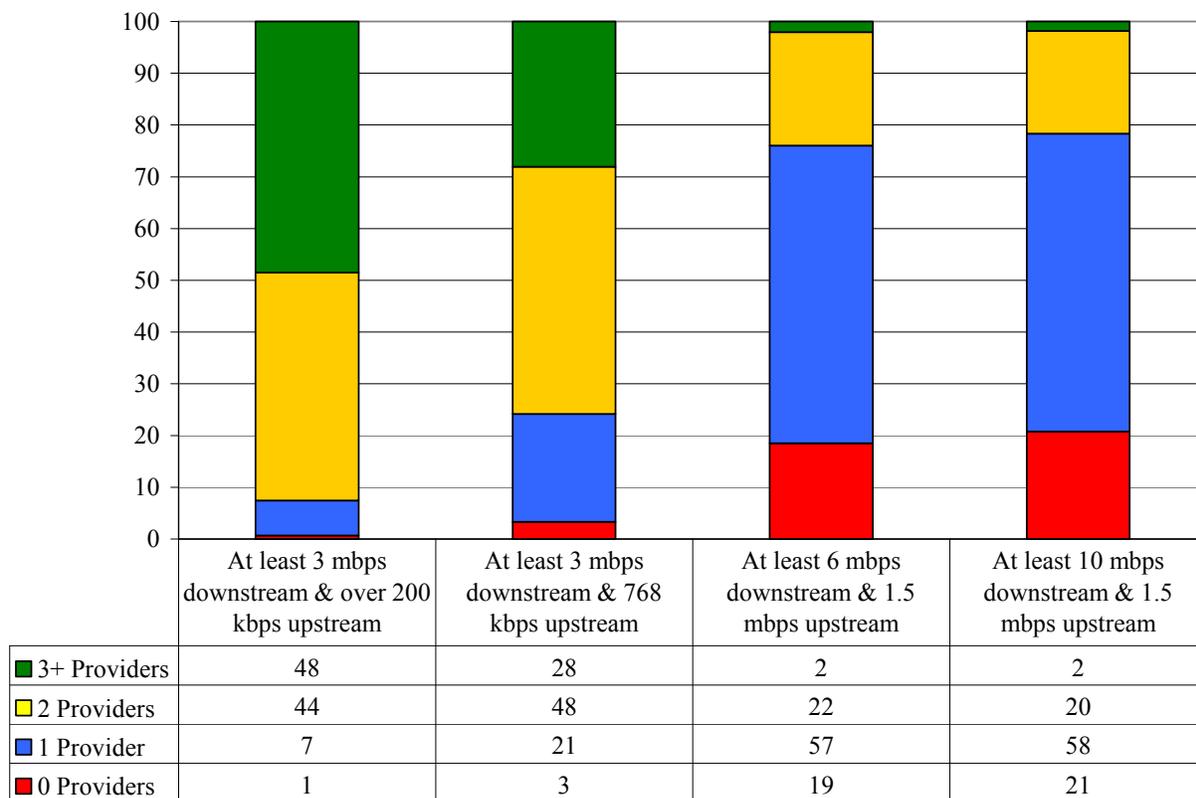


- Downstream Speed  $\geq$  6 mbps -- Upstream Speed  $\geq$  1.5 mbps (13,644,000 connections)
- ▨ Downstream Speed  $\geq$  6 mbps -- 768  $\leq$  Upstream Speed < 1.5 mbps (19,522,000 connections)
- ▤ Downstream Speed  $\geq$  6 mbps -- Upstream Speed < 768 kbps (7,216,000 connections)

- At year-end 2009, another 5% of reportable connections (or 7,216,000 connections) were at least 6 mbps in the downstream direction and were slower than 768 kbps in the upstream direction. These purchased connections also are too slow in the upstream direction to meet the broadband availability benchmark adopted in the *Sixth Broadband Deployment Report*.
- In sum, about 68% of reportable Internet access service connections (or 90,963,000 connections) in December 2009 were too slow in both the downstream and upstream directions, or too slow in a single direction, to meet the broadband availability benchmark adopted in the *Sixth Broadband Deployment Report*. About 39% of reportable connections (or 51,573,000 connections) were too slow in both directions, about 19% (or 25,021,000 connections) were too slow in the downstream direction only, and about 11% (or 14,369,000 connections) were too slow in the upstream direction only.

**Providers by census tract by connection speed.** In earlier reports in which we summarized Form 477 data through June 2008, we included summary statistics for the percentage of 5-digit geographical ZIP Codes in which differing numbers of providers (zero providers, one provider, two providers, etc.) had customers for their reportable connections.<sup>8</sup> The ZIP Code-based data did not include information about the speeds of the connections that were purchased in particular ZIP Codes. However, the census tract-level information collected on Form 477 since December 2008 does include the speeds of purchased fixed-location connections.<sup>9</sup> In Figure 3(a), we use that information to estimate the percentages of households located in census tracts where zero, one, two, or three or more providers reported residential fixed-location connections of several different speeds at year-end 2009.<sup>10</sup>

**Figure 3(a)**  
**Percentages of Households Located in Census Tracts Where Providers Report Residential Fixed-Location Connections of Various Speeds as of December 31, 2009**



Figures may not sum to 100% due to rounding.

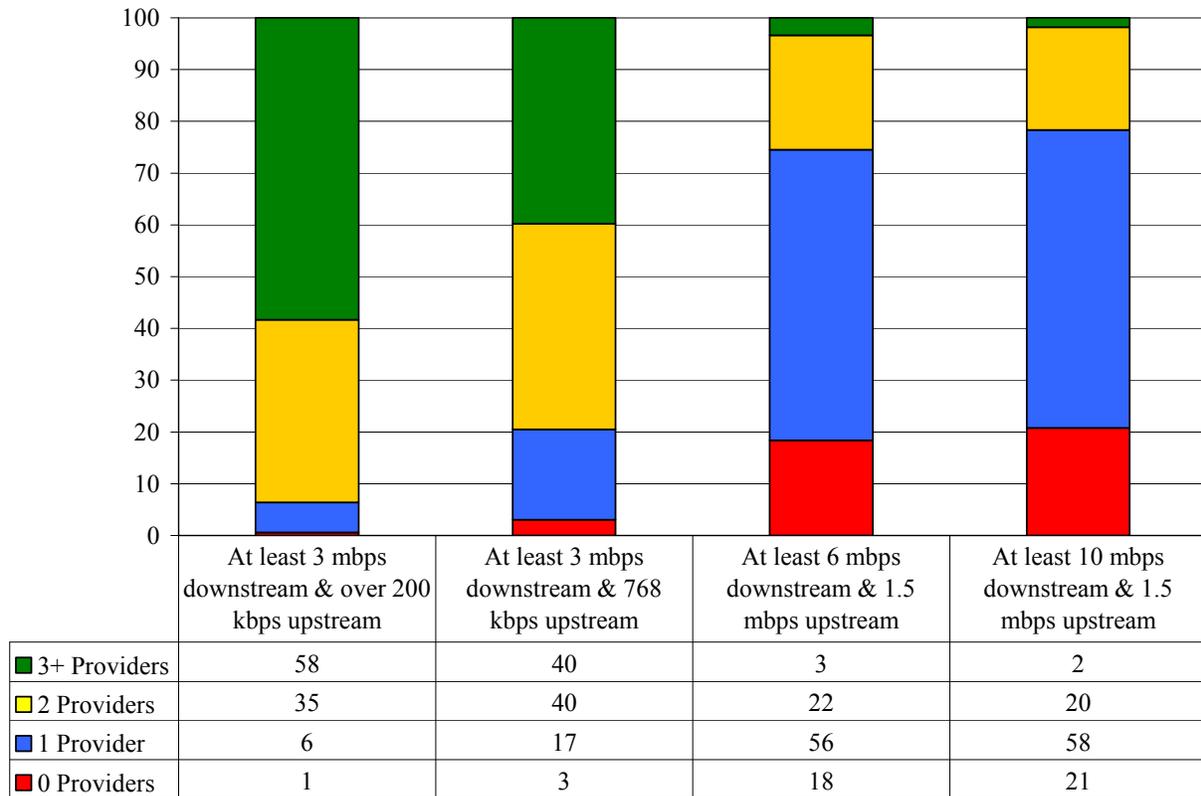
<sup>8</sup> For the most recent such report, see *High-Speed Services for Internet Access: Status as of June 30, 2008* (July 2009) (*June 2008 High-Speed Report*) at pp. 1-4, available at <http://www.fcc.gov/wcb/iatd/comp.html>.

<sup>9</sup> Mobile wireless providers report the number of service subscriptions they have sold, and the speeds of those service subscriptions, at the state level only. For individual census tracts, they report the speeds of mobile wireless service subscriptions that they offer for sale – that is, the capability of the network that they operate in the census tract.

<sup>10</sup> A provider who reports residential connections of a particular speed in a particular census tract may or may not offer service of that speed everywhere in the census tract.

In Figure 3(b), we estimate the percentages of households in census tracts where providers reported residential fixed-location connections of different speeds *or* operated a mobile wireless network capable of sending or receiving data at the indicated speeds.

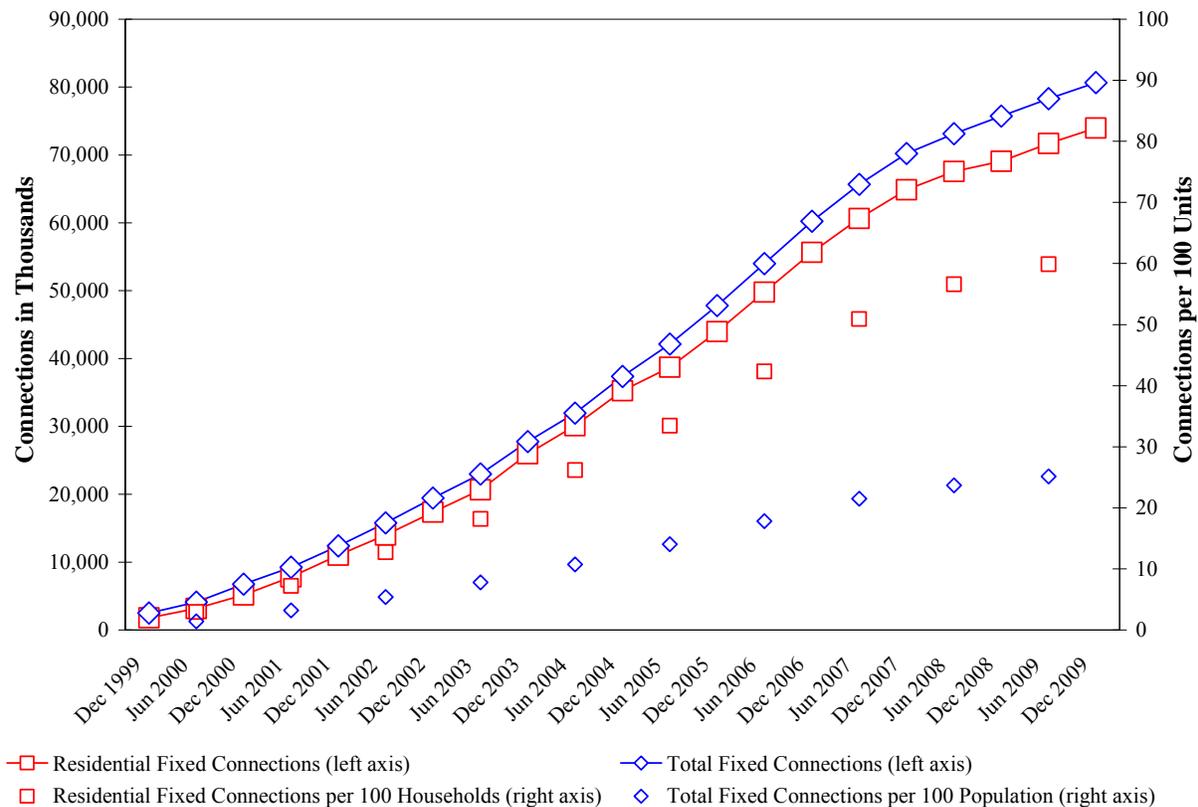
**Figure 3(b)**  
**Percentages of Households Located in Census Tracts Where Providers Report Residential Fixed-Location Connections of Various Speeds or Operate a Mobile Wireless Network Capable of Delivering Service of Various Speeds as of December 31, 2009**



Figures may not sum to 100% due to rounding.

**A decade of Internet access adoption.** With this report, the Commission has systematically collected, compiled, and published a full decade of data about the adoption of fixed-location Internet access connections faster than 200 kbps in at least one direction. Figure 4 illustrates the adoption of fixed-location Internet access connections (that is, all reportable connections except mobile wireless connections) since 1999.<sup>11</sup>

**Figure 4**  
**Fixed-Location Connections 1999-2009**



- Between 1999 and 2009, total (business and residential) reportable fixed-location connections grew from 2 million connections to 81 million connections – at a compound annual growth rate of 42% per year.
- Between 1999 and 2009, residential fixed-location connections grew from less than 2 million connections to 74 million connections – at a compound annual growth rate of 45% per year.
- Between mid-year 2000 and mid-year 2009, household adoption – which we track in Figure 4 by comparing the number of residential fixed-location connections to the number of households – increased from 3 connections per 100 households to 60 connections per 100 households.<sup>12,13</sup>

<sup>11</sup> Reportable connections for December 1999 through June 2005 are summarized in our report *High-Speed Services for Internet Access: Status as of June 30, 2008* (July 2009), Tables 1 and 2, available in Excel format at <http://www.fcc.gov/wcb/iatd/comp.html>. The more recent data are discussed later in this report.

<sup>12</sup> We also show total (including business as well as residential) fixed-location connections per 100 *population* in Figure 4, which is a statistic routinely reported by the Organization for Economic Cooperation and Development

## **Other report highlights.**

### **Total subscribership**

- During the second half of 2009, fixed-location Internet access connections over 200 kbps in at least one direction increased by 3%, to 81 million. See Table 1.
- Also during the second half of 2009, mobile wireless service subscribers with mobile devices and data plans for full Internet access increased by 48%, to 52 million. See Table 1.

### **Residential subscribership**

- Residential fixed-location Internet access connections over 200 kbps in at least one direction increased by 3% during the second half of 2009, to 74 million. See Table 3.
- Reported residential mobile wireless service subscribers with mobile devices and data plans for full Internet access increased by 53%, to 34 million, during the second half of 2009. See Table 3.

### **Household adoption by speed tier**

- As a national average in December 2009, there were 32 residential fixed-location connections per 100 households for connections with speeds that were reported to be at least 3 mbps downstream and 768 kbps upstream. The ratio was 63 connections per 100 households for all reportable residential fixed-location connections.<sup>14</sup> See Tables 15 and 16.

### **Census tract and county shares of households with reportable connections**

- We estimate the share of households with fixed-location Internet access connections over 200 kbps in at least one direction in individual census tracts and counties as of December 31, 2009. Our estimates continue to indicate that there are substantial areas of relatively low and relatively high household adoption around the national average. See Charts 15 and 16.

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(OECD). This ratio incorporates connections to business locations into a comparison to persons. A more accurately measured indicator of this type would include only connections to residential locations, but OECD does not have comprehensive, consistent information about residential connections in the member countries. (We note that the ratio of accurately measured *residential* fixed-location connections to population has a maximum value for any given country and point in time – the value when *every* household is connected – if we assume that no household would have more than one fixed connection to its premises. For the United States in June 2009, for example, the maximum value would be 38 because there were 119.8 million households in the United States and inhabited insular areas and a population of 311.4 million.)

<sup>13</sup> For consistency of presentation, we include only mid-year ratios in Figure 4. We calculated total fixed connections per 100 population using U.S. Census Bureau population estimates for the United States and Puerto Rico – which are as of July 1 each year – and Census 2000 population for the remaining inhabited insular areas. We calculated residential fixed connections per 100 households using U.S. household estimates from the Census Bureau’s Current Population Survey (CPS) for July of each year and Census 2000 households for the inhabited insular areas. (The CPS also estimates U.S. households for March and November of each year.)

<sup>14</sup> Increases over time in the ratio of residential fixed-location connections to households indicate that increasing shares of households are connected at home. The ratio is somewhat different from the “take rate” of offered service because, as discussed in connection with Figure 3(a), some households are located in areas where apparently no fixed-location service is offered (as none is purchased).

- For both census tracts and counties, we continue to find estimates above 100% for the share of households with reportable fixed-location Internet access connections. These results suggest that some filers are not accurately assigning customer connections to census tracts, and anecdotal evidence supports that conclusion.<sup>15</sup>

### **Household adoption rates and subscribership demographics**

- The report includes charts that illustrate correlations between household subscribership, or *adoption*, rates and demographic measures. We update charts based on income, household density, and education, and we add charts based on age and race. The data indicate that some demographic variables are correlated with the adoption of Internet access service. See Charts 17-29.

### **Maps of providers by census tract**

- Maps depict the number of providers of reportable connections by census tract. These maps are similar to previously published maps of providers by ZIP Code, but differ in important respects. In particular, instead of a single map combining providers of connections over all technologies and to both residential and business end users, now separate maps depict: (1) providers of total (combined residential and business) reportable fixed-location connections, (2) providers of *residential* reportable fixed-location connections, (3) providers of *residential* fixed-location connections at least 3 mbps downstream and 768 kbps upstream, and (4) providers making reportable mobile wireless service *available*.<sup>16</sup>

**Remainder of the report.** The remainder of the report consists of tables, charts, and maps that highlight different aspects of Internet access service subscriptions. This information is organized into four sections, as described below. As always, publicly accessible data that are too voluminous to include in this report are available online at <http://www.fcc.gov/wcb/iatd/comp.html>.

- Detailed Summary Statistics: The Nation. Tables 1-14 and Charts 1-14 focus in order on: number of connections, speed of connections, technology of connections, and number of providers.
- Detailed Summary Statistics: The States. Tables 15-24 present comparable information for the individual states and our estimates of the shares of households that are connected at different speeds.
- Detailed Summary Statistics: Counties and Census Tracts. Charts 15-16 and Tables 25-29 present information about differences among counties and census tracts. This section concludes with two maps that illustrate differences among census tracts in the estimated share of connected households and the four maps (discussed above) that illustrate providers by census tract.

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<sup>15</sup> For example, while contacting Form 477 filers with questions about reported data, FCC staff continue to find situations in which all connections reported for a county have been assigned to a single, anomalous census tract.

<sup>16</sup> As discussed in the Technical Notes, a mobile wireless provider should only report service availability in census tracts where the provider operates a network capable of sending or receiving data at speeds above 200 kbps.

- Detailed Correlation Results: Demographic Measures. Charts 17-29 present details of the correlations observed between the estimated share of connected households and demographic measures.

\* \* \* \*

We invite users of this information to suggest improvements in the data analysis by using the attached customer response form or e-mailing comments to [IATDreports@fcc.gov](mailto:IATDreports@fcc.gov) for subject: December 2009 Internet services data, and to participate in proceedings the Commission undertakes to improve the data collection.

## Detailed Summary Statistics: The Nation

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**Table 1**  
**Connections over 200 kbps in at Least One Direction 2005-2009**  
(In thousands)

<i>Technology</i>	2005		2006		2007		2008		2009	
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	
Total	50,930	64,992	82,525	100,986	121,222	132,814	<b>100,770</b>	<b>113,669</b>	<b>133,148</b>	
Total Fixed	47,803	53,975	60,238	65,681	70,206	73,123	<b>75,729</b>	<b>78,268</b>	<b>80,662</b>	
Mobile Wireless <sup>1</sup>	3,128	11,017	22,288	35,305	51,016	59,691	<b>25,040</b>	<b>35,401</b>	<b>52,486</b>	

**Table 2**  
**Connections at Least 3 mbps Downstream and 768 kbps Upstream 2008-2009**  
(In thousands)

<i>Technology</i>	2008		2009
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	<b>31,121</b>	<b>33,611</b>	<b>42,184</b>
Total Fixed	<b>30,988</b>	<b>33,387</b>	<b>39,364</b>
Mobile Wireless <sup>1</sup>	<b>133</b>	<b>224</b>	<b>2,820</b>

**Table 3**  
**Residential Connections over 200 kbps in at Least One Direction 2005-2009**  
(In thousands)

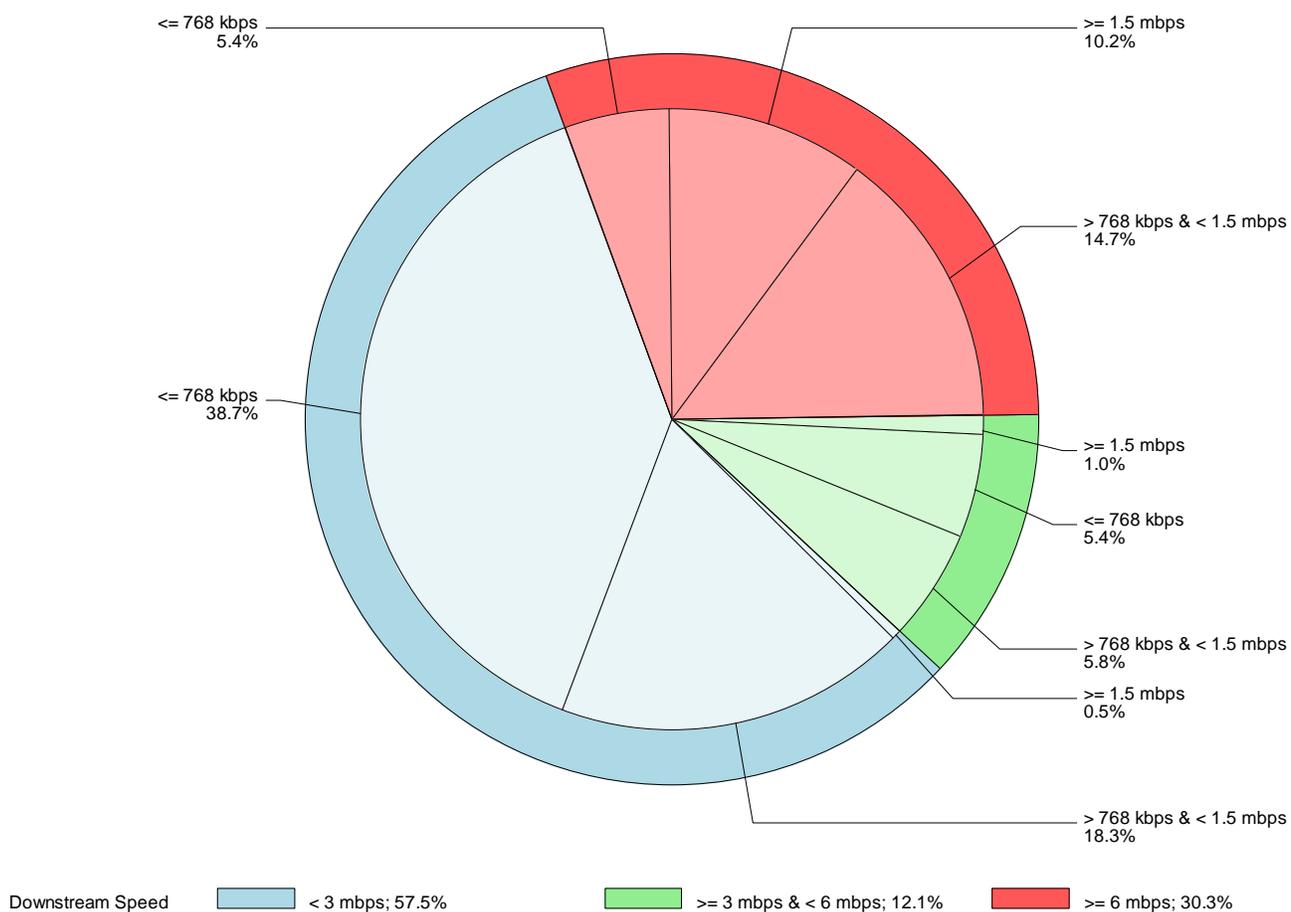
<i>Technology</i>	2005		2006		2007		2008		2009	
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	
Total	43,965	50,941	58,344	66,173	73,984	79,090	<b>84,817</b>	<b>94,231</b>	<b>108,386</b>	
Total Fixed	43,956	49,784	55,652	60,628	64,875	67,554	<b>69,068</b>	<b>71,700</b>	<b>73,950</b>	
Mobile Wireless <sup>1</sup>	9	1,157	2,692	5,545	9,109	11,536	<b>15,749</b>	<b>22,531</b>	<b>34,435</b>	

**Table 4**  
**Residential Connections at Least 3 mbps Downstream and 768 kbps Upstream 2008-2009**  
(In thousands)

<i>Technology</i>	2008		2009
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	<b>29,127</b>	<b>31,557</b>	<b>39,786</b>
Total Fixed	<b>29,013</b>	<b>31,362</b>	<b>37,149</b>
Mobile Wireless <sup>1</sup>	<b>114</b>	<b>196</b>	<b>2,638</b>

<sup>1</sup> Reporting instructions for mobile wireless changed between the June 2008 and December 2008 data. See Technical Notes at the end of the report.  
Note: Some December 2008 and June 2009 data have been revised. Figures may not sum to totals due to rounding.  
Source: FCC Form 477, Parts I and VI.

**Chart 1**  
**Distribution of Connections over 200 kbps in at Least One Direction**  
**as of December 31, 2009**



Connections over 200 kbps in at Least One Direction (in thousands)

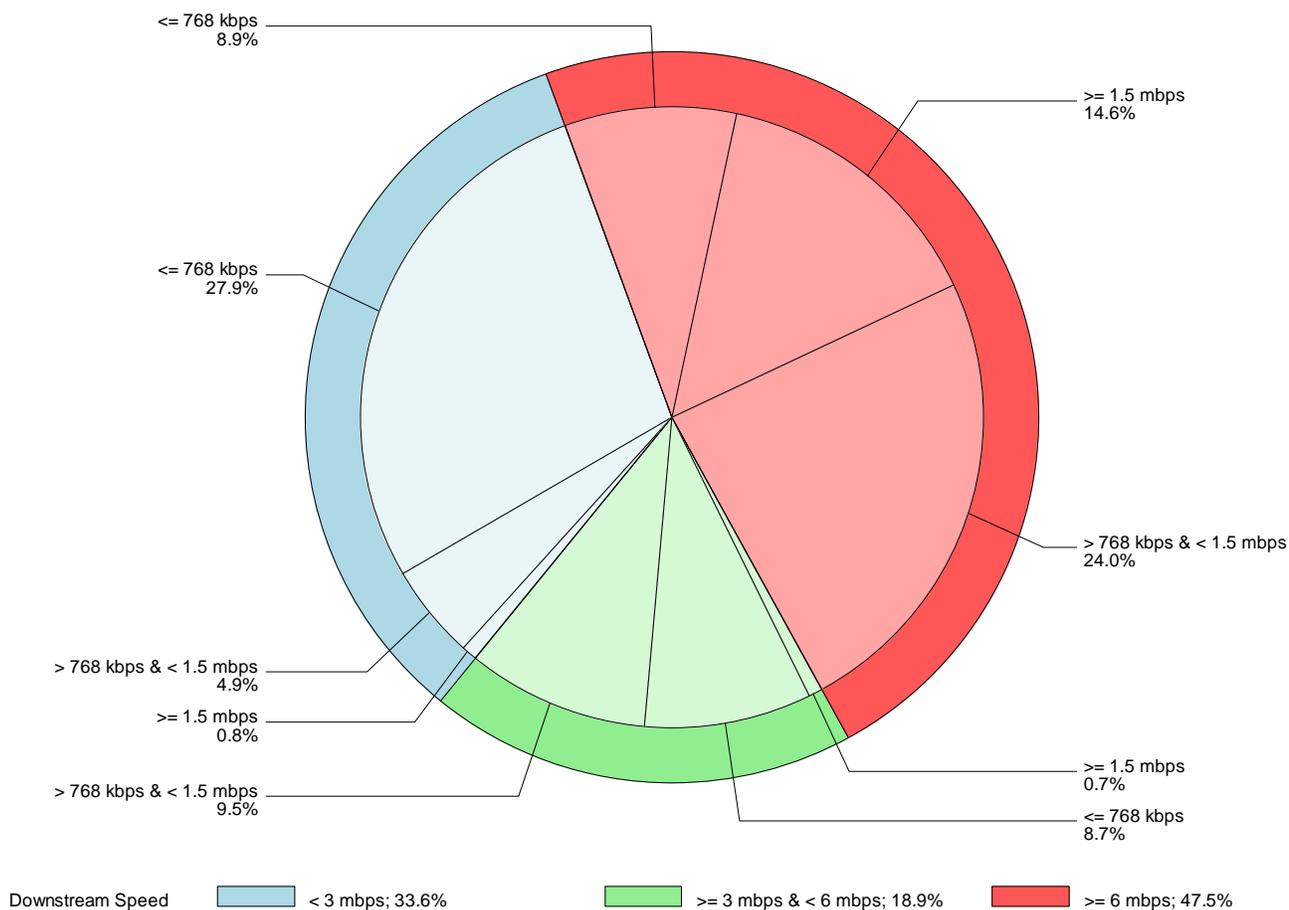
Upload Speed	Download Speed			Total
	Less than 3 mbps	At least 3 mbps and less than 6 mbps	At least 6 mbps	
Less than 768 kbps	51,573	7,153	7,216	65,942
At least 768 kbps & Less than 1.5 mbps	24,346	7,669	19,522	51,536
At least 1.5 mbps	676	1,350	13,644	15,670
<b>Total</b>	<b>76,594</b>	<b>16,172</b>	<b>40,382</b>	<b>133,148</b>

Percentages				
Less than 768 kbps	38.7	5.4	5.4	49.5
At least 768 kbps & Less than 1.5 mbps	18.3	5.8	14.7	38.7
At least 1.5 mbps	0.5	1.0	10.2	11.8
<b>Total</b>	<b>57.5</b>	<b>12.1</b>	<b>30.3</b>	<b>100.0</b>

Note: Figures may not sum to totals due to rounding.  
 Source: FCC Form 477, Part I.

**Chart 2**  
**Distribution of Fixed Connections over 200 kbps in at Least One Direction**  
**as of December 31, 2009**



Fixed Connections over 200 kbps in at Least One Direction (in thousands)

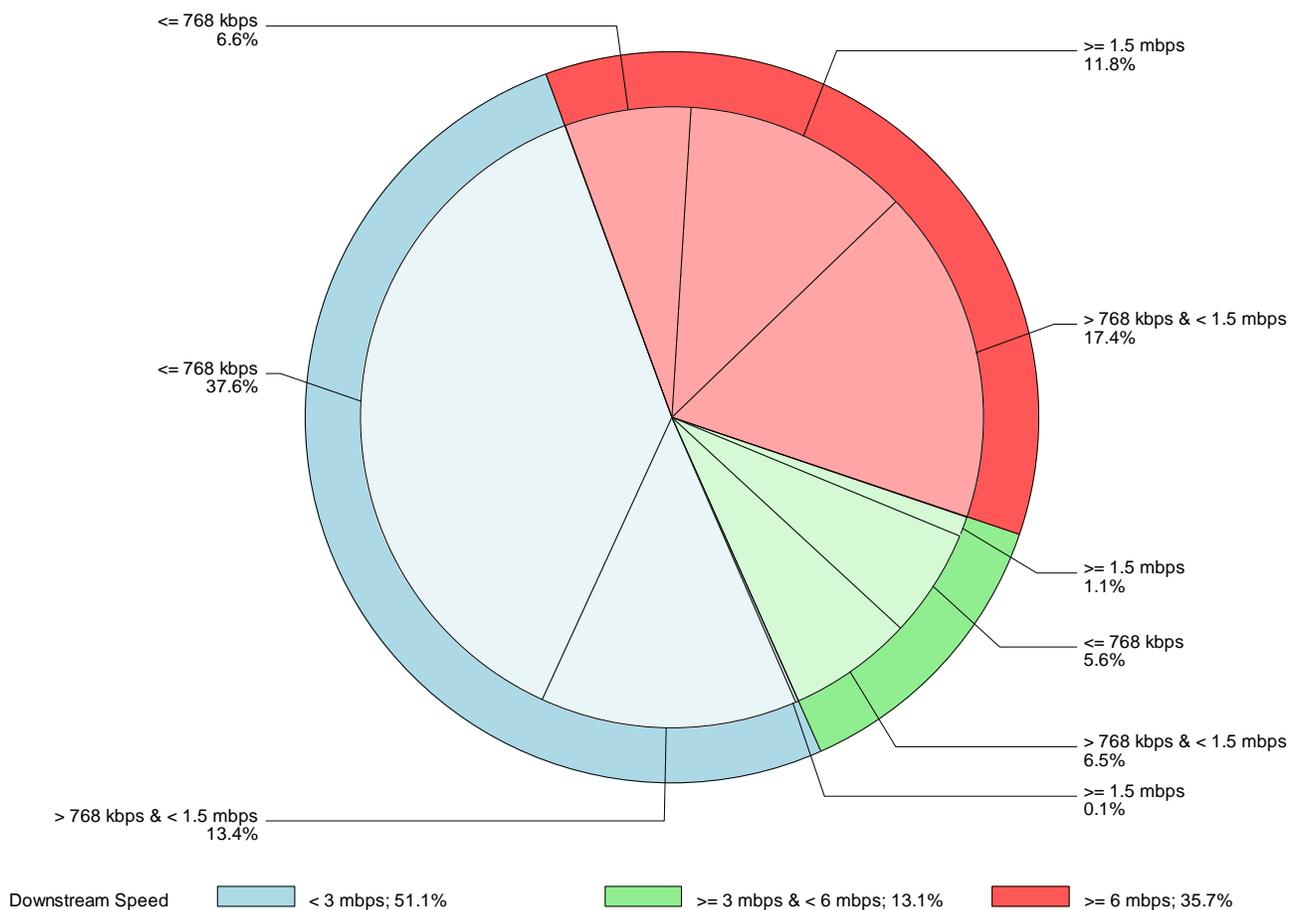
Upload Speed	Download Speed			Total
	Less than 3 mbps	At least 3 mbps and less than 6 mbps	At least 6 mbps	
Less than 768 kbps	22,465	7,003	7,194	36,663
At least 768 kbps & Less than 1.5 mbps	3,965	7,626	19,347	30,937
At least 1.5 mbps	670	593	11,799	13,062
<b>Total</b>	<b>27,101</b>	<b>15,222</b>	<b>38,340</b>	<b>80,662</b>

Percentages

Less than 768 kbps	27.9	8.7	8.9	45.5
At least 768 kbps & Less than 1.5 mbps	4.9	9.5	24.0	38.4
At least 1.5 mbps	0.8	0.7	14.6	16.2
<b>Total</b>	<b>33.6</b>	<b>18.9</b>	<b>47.5</b>	<b>100.0</b>

Note: Figures may not sum to totals due to rounding.  
 Source: FCC Form 477, Part I.

**Chart 3**  
**Distribution of Residential Connections over 200 kbps in at Least One Direction**  
**as of December 31, 2009**



Residential Connections over 200 kbps in at Least One Direction (in thousands)

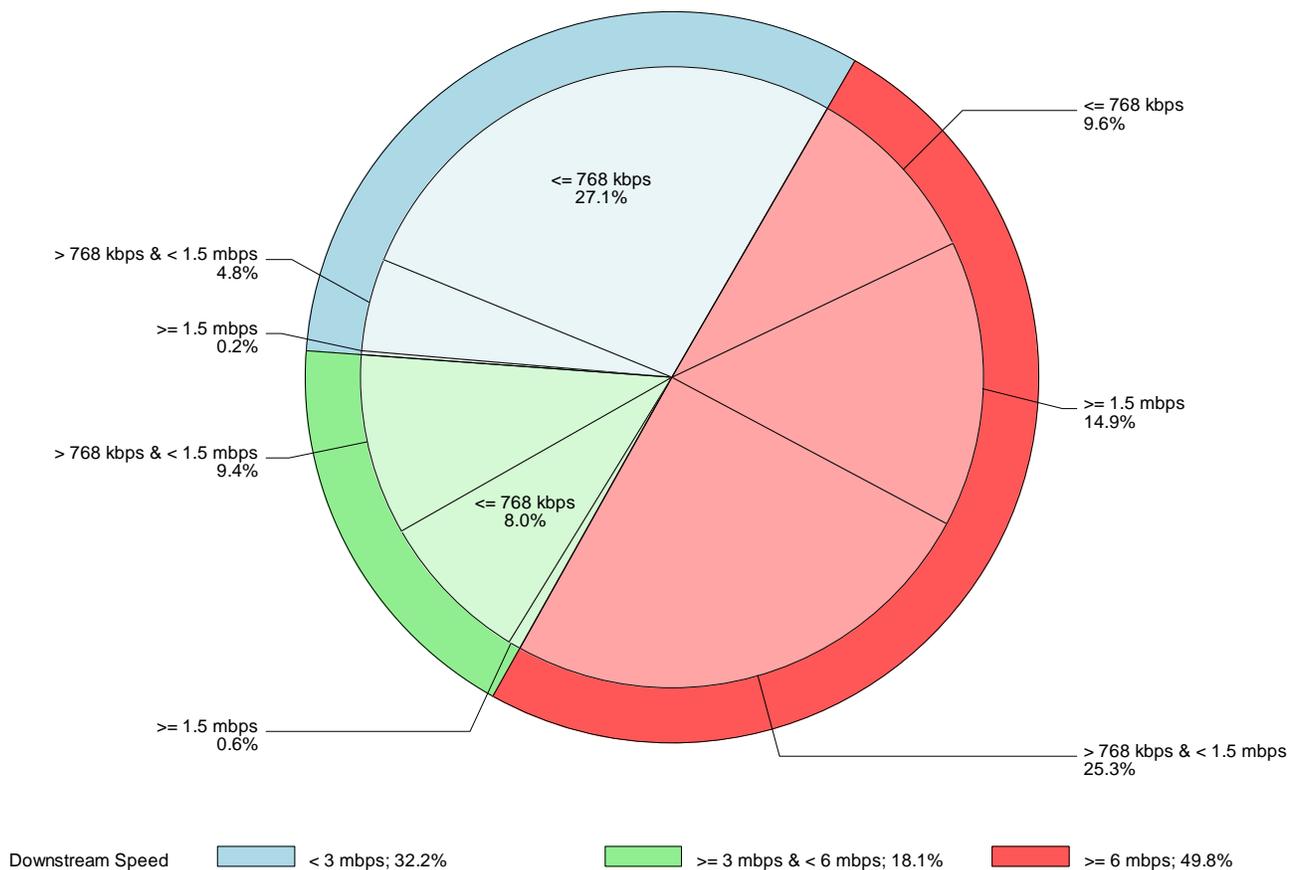
Upload Speed	Download Speed			Total
	Less than 3 mbps	At least 3 mbps and less than 6 mbps	At least 6 mbps	
Less than 768 kbps	40,778	6,080	7,108	53,967
At least 768 kbps & Less than 1.5 mbps	14,489	7,017	18,876	40,382
At least 1.5 mbps	144	1,139	12,754	14,037
<b>Total</b>	<b>55,411</b>	<b>14,236</b>	<b>38,738</b>	<b>108,386</b>

Percentages

Less than 768 kbps	37.6	5.6	6.6	49.8
At least 768 kbps & Less than 1.5 mbps	13.4	6.5	17.4	37.3
At least 1.5 mbps	0.1	1.1	11.8	13.0
<b>Total</b>	<b>51.1</b>	<b>13.1</b>	<b>35.7</b>	<b>100.0</b>

Note: Figures may not sum to totals due to rounding.  
 Source: FCC Form 477, Parts I and VI.

**Chart 4**  
**Distribution of Residential Fixed Connections over 200 kbps in at Least One Direction**  
**as of December 31, 2009**



Residential Fixed Connections over 200 kbps in at Least One Direction (in thousands)

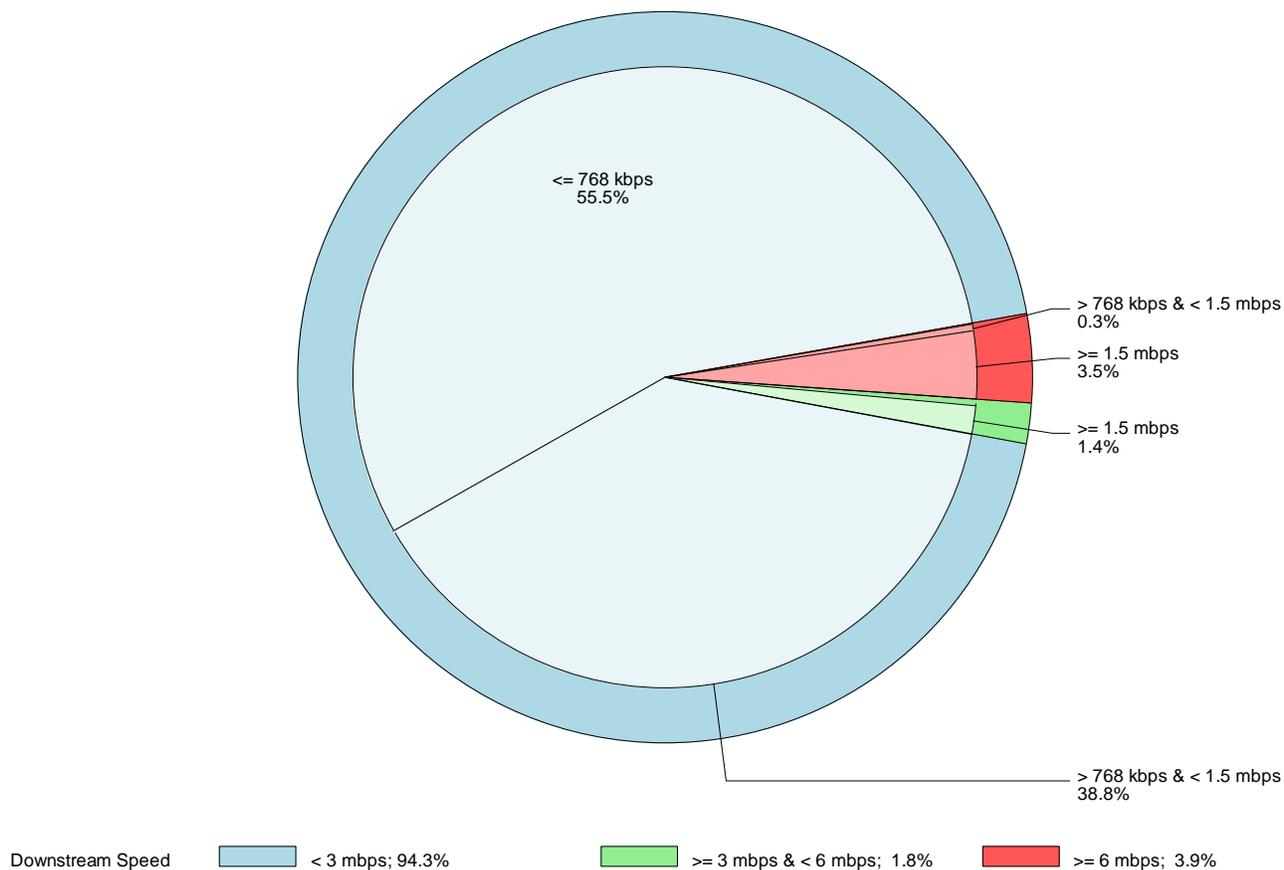
Upload Speed	Download Speed			Total
	Less than 3 mbps	At least 3 mbps and less than 6 mbps	At least 6 mbps	
Less than 768 kbps	20,074	5,930	7,086	33,091
At least 768 kbps & Less than 1.5 mbps	3,571	6,977	18,701	29,249
At least 1.5 mbps	140	464	11,007	11,610
<b>Total</b>	<b>23,785</b>	<b>13,371</b>	<b>36,794</b>	<b>73,950</b>

Percentages

Less than 768 kbps	27.1	8.0	9.6	44.7
At least 768 kbps & Less than 1.5 mbps	4.8	9.4	25.3	39.6
At least 1.5 mbps	0.2	0.6	14.9	15.7
<b>Total</b>	<b>32.2</b>	<b>18.1</b>	<b>49.8</b>	<b>100.0</b>

Note: Figures may not sum to totals due to rounding.  
Source: FCC Form 477, Part VI.

**Chart 5**  
**Distribution of Mobile Wireless Connections over 200 kbps in at Least One Direction**  
**as of December 31, 2009**



Mobile Wireless Connections over 200 kbps in at Least One Direction (in thousands)

Upload Speed	Download Speed			Total
	Less than 3 mbps	At least 3 mbps and less than 6 mbps	At least 6 mbps	
Less than 768 kbps	29,107	150	22	29,280
At least 768 kbps & Less than 1.5 mbps	20,381	43	175	20,599
At least 1.5 mbps	6	757	1,845	2,607
<b>Total</b>	<b>49,494</b>	<b>950</b>	<b>2,042</b>	<b>52,486</b>

Percentages				
Less than 768 kbps	55.5	0.3	0.0	55.8
At least 768 kbps & Less than 1.5 mbps	38.8	0.1	0.3	39.2
At least 1.5 mbps	0.0	1.4	3.5	5.0
<b>Total</b>	<b>94.3</b>	<b>1.8</b>	<b>3.9</b>	<b>100.0</b>

Note: Figures may not sum to totals due to rounding.  
Source: FCC Form 477, Part I.

**Table 5**  
**Connections and Percentage Residential by Speed Tier as of December 31, 2009**  
(In thousands)

Upload Speed	Customer Class	Download Speed								Total
		Greater than 200 kbps and less than 768 kbps	At least 768 kbps and less than 1.5 mbps	At least 1.5 mbps and less than 3 mbps	At least 3 mbps and less than 6 mbps	At least 6 mbps and less than 10 mbps	At least 10 mbps and less than 25 mbps	At least 25 mbps and less than 100 mbps	At least 100 mbps	
Less than or equal to 200 kbps	Total Connections	9,289	2,424	5,425	40	7	4	0	0	17,190
	% Residential	68	96	49	81	92	93	0	0	66
Greater than 200 kbps and less than 768 kbps	Total Connections	13,088	12,914	8,431	7,113	6,131	1,075	#	0	48,753
	% Residential	77	94	86	85	99	97	30	0	87
At least 768 and less then 1.5 mbps	Total Connections	4	18,893	5,449	7,669	*	5,174	1	*	51,536
	% Residential	93	56	71	92	96	98	1	0	78
At least 1.5 mbps and less than 3 mbps	Total Connections	#	#	617	1,128	3,048	*	29	*	12,207
	% Residential	51	87	14	90	96	94	99	0	90
At least 3 mbps and less than 6 mbps	Total Connections	*	*	#	221	18	2,058	166	0	2,478
	% Residential	99	0	87	57	46	96	65	0	90
At least 6 mbps and less than 10 mbps	Total Connections	*	*	0	*	49	2	#	0	77
	% Residential	100	1	0	67	59	75	30	0	72
At least 10 mbps and less than 25 mbps	Total Connections	0	*	*	0	*	780	56	*	852
	% Residential	0	99	0	0	0	92	92	0	92
At least 25 mbps and less than 100 mbps	Total Connections	0	0	*	*	0	*	25	*	25
	% Residential	0	0	0	72	0	0	13	0	13
At least 100 mbps	Total Connections	0	0	0	0	0	0	0	29	29
	% Residential	0	0	0	0	0	0	0	17	17
Total	Total Connections	22,421	34,250	19,924	16,172	23,598	16,476	277	31	133,148
	% Residential	74	73	70	88	97	96	69	15	81

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Note: Figures may not sum to totals due to rounding.

Source: FCC Form 477, Parts I and VI.

**Table 6**  
**Fixed Connections and Percentage Residential by Speed Tier as of December 31, 2009**  
(In thousands)

Upload Speed	Customer Class	Download Speed								Total
		Greater than 200 kbps and less than 768 kbps	At least 768 kbps and less than 1.5 mbps	At least 1.5 mbps and less than 3 mbps	At least 3 mbps and less than 6 mbps	At least 6 mbps and less than 10 mbps	At least 10 mbps and less than 25 mbps	At least 25 mbps and less than 100 mbps	At least 100 mbps	
Less than or equal to 200 kbps	Total Connections	1,927	*	*	*	7	*	0	0	4,660
	% Residential	87	96	62	82	92	93	0	0	90
Greater than 200 kbps and less than 768 kbps	Total Connections	2,656	7,005	8,195	*	*	1,075	#	0	32,003
	% Residential	89	93	85	85	99	97	30	0	90
At least 768 and less then 1.5 mbps	Total Connections	4	*	2,963	7,626	14,170	5,174	1	*	30,937
	% Residential	93	84	92	91	96	98	1	0	95
At least 1.5 mbps and less than 3 mbps	Total Connections	#	#	612	372	*	7,384	29	*	9,600
	% Residential	51	87	14	91	97	94	99	0	89
At least 3 mbps and less than 6 mbps	Total Connections	*	*	#	*	18	2,058	166	0	*
	% Residential	99	0	87	57	46	96	65	0	90
At least 6 mbps and less than 10 mbps	Total Connections	*	*	0	*	49	2	#	0	77
	% Residential	100	1	0	67	59	75	30	0	72
At least 10 mbps and less than 25 mbps	Total Connections	0	*	*	0	*	780	56	*	852
	% Residential	0	99	0	0	0	92	92	0	92
At least 25 mbps and less than 100 mbps	Total Connections	0	0	*	*	0	*	25	*	*
	% Residential	0	0	0	72	0	0	13	0	13
At least 100 mbps	Total Connections	0	0	0	0	0	0	0	29	29
	% Residential	0	0	0	0	0	0	0	17	17
Total	Total Connections	4,626	10,438	12,036	15,222	21,556	16,476	277	31	80,662
	% Residential	88	93	83	88	97	96	69	15	92

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Note: Figures may not sum to totals due to rounding.

Source: FCC Form 477, Parts I and VI.

**Table 7**  
**Connections over 200 kbps in at Least One Direction by Technology 2005-2009**  
(In thousands)

Technology	2005		2006		2007		2008		2009	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
Total	50,930	64,992	82,525	100,986	121,222	132,814	<b>100,770</b>	<b>113,669</b>	<b>133,148</b>	
Total Fixed	47,803	53,975	60,238	65,681	70,206	73,123	<b>75,729</b>	<b>78,268</b>	<b>80,662</b>	
aDSL	19,515	22,584	25,413	27,793	29,449	29,964	<b>30,198</b>	<b>30,618</b>	<b>30,971</b>	
sDSL	369	337	345	320	293	275	<b>241</b>	<b>217</b>	<b>225</b>	
Other Wireline	373	472	545	622	605	665	<b>705</b>	<b>686</b>	<b>716</b>	
Cable Modem	26,558	29,173	31,982	34,404	36,507	38,190	<b>40,273</b>	<b>41,722</b>	<b>43,128</b>	
FTTP <sup>1</sup>	298	547	894	1,281	1,849	2,346	<b>2,884</b>	<b>3,543</b>	<b>3,975</b>	
Satellite	427	495	572	669	791	869	<b>938</b>	<b>990</b>	<b>1,116</b>	
Fixed Wireless	257	361	483	587	707	808	<b>486</b>	<b>487</b>	<b>525</b>	
Power Line and Other	5	5	5	5	5	5	<b>5</b>	<b>5</b>	<b>5</b>	
Mobile Wireless <sup>2</sup>	3,128	11,017	22,288	35,305	51,016	59,691	<b>25,040</b>	<b>35,401</b>	<b>52,486</b>	

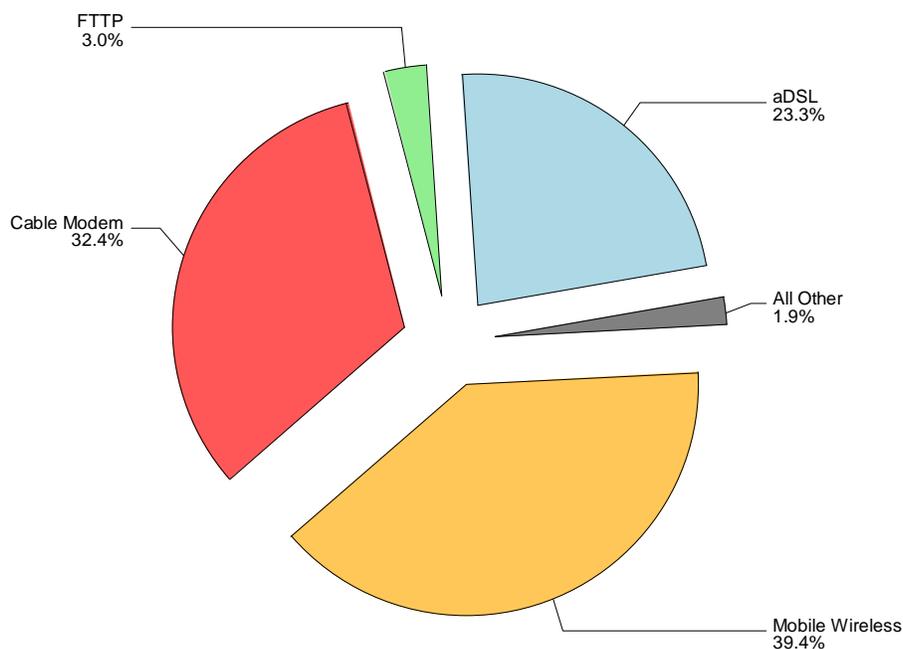
<sup>1</sup> Fiber to the premises. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.

<sup>2</sup> Reporting instructions for mobile wireless changed between the June 2008 and December 2008 data. See Technical Notes at the end of the report.

Note: Some December 2008 and June 2009 data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

**Chart 6**  
**Connections by Technology as of December 31, 2009**



**Table 8**  
**Residential Connections over 200 kbps in at Least One Direction by Technology 2005-2009**  
(In thousands)

Technology	2005		2006		2007		2008		2009	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
Total	43,965	50,941	58,344	66,173	73,984	79,090	<b>84,817</b>	<b>94,231</b>	<b>108,386</b>	
Total Fixed	43,956	49,784	55,652	60,628	64,875	67,554	<b>69,068</b>	<b>71,700</b>	<b>73,950</b>	
aDSL	17,371	20,152	22,768	24,962	26,475	26,950	<b>26,488</b>	<b>27,029</b>	<b>27,388</b>	
sDSL	122	103	105	105	82	81	<b>74</b>	<b>71</b>	<b>85</b>	
Other Wireline	7	9	13	12	17	32	<b>42</b>	<b>44</b>	<b>51</b>	
Cable Modem	25,714	28,388	31,118	33,336	35,341	36,901	<b>38,702</b>	<b>40,122</b>	<b>41,447</b>	
FTTP <sup>1</sup>	213	444	764	1,153	1,683	2,139	<b>2,717</b>	<b>3,344</b>	<b>3,754</b>	
Satellite	320	382	456	530	626	705	<b>630</b>	<b>668</b>	<b>767</b>	
Fixed Wireless	203	301	424	523	644	741	<b>410</b>	<b>417</b>	<b>453</b>	
Power Line and Other	5	5	5	5	5	5	<b>5</b>	<b>5</b>	<b>5</b>	
Mobile Wireless <sup>2</sup>	9	1,157	2,692	5,545	9,109	11,536	<b>15,749</b>	<b>22,531</b>	<b>34,435</b>	

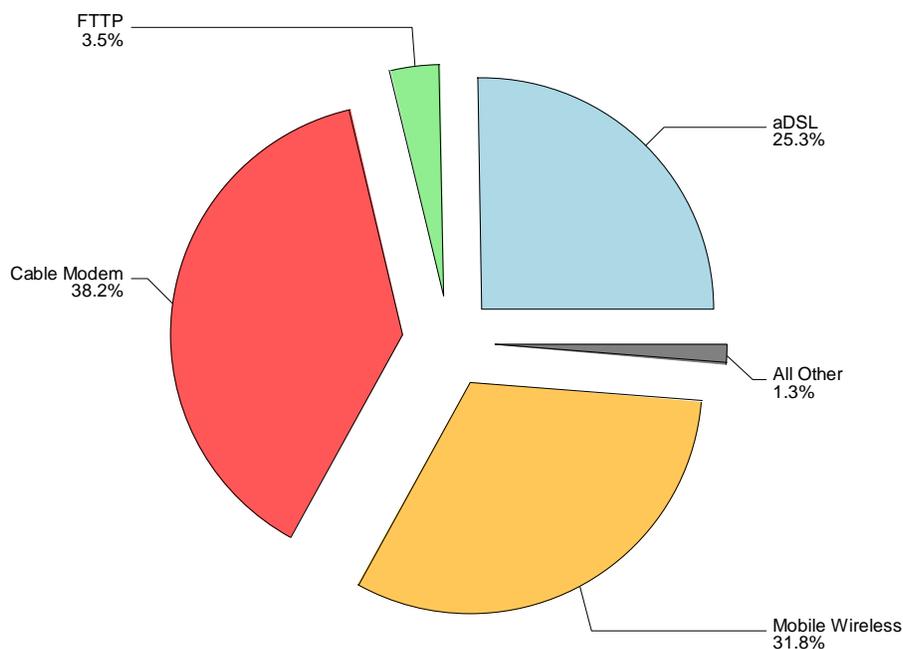
<sup>1</sup> Fiber to the premises. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.

<sup>2</sup> Reporting instructions for mobile wireless changed between the June 2008 and December 2008 data. See Technical Notes at the end of the report.

Note: Some December 2008 and June 2009 data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Parts I and VI.

**Chart 7**  
**Residential Connections by Technology as of December 31, 2009**



**Table 9**  
**Connections at Least 3 mbps Downstream and 768 kbps Upstream by Technology 2008-2009**  
(In thousands)

<i>Technology</i>	<i>2008</i>		<i>2009</i>
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	31,121	33,611	42,184
Total Fixed	30,988	33,387	39,364
aDSL	5,403	5,614	6,391
sDSL	5	9	19
Other Wireline	121	128	149
Cable Modem	22,709	24,242	28,988
FTTP <sup>1</sup>	2,694	3,328	3,734
Satellite	#	#	#
Fixed Wireless	54	64	81
Power Line and Other	1	1	1
Mobile Wireless <sup>2</sup>	133	224	2,820

# = Rounds to Zero.

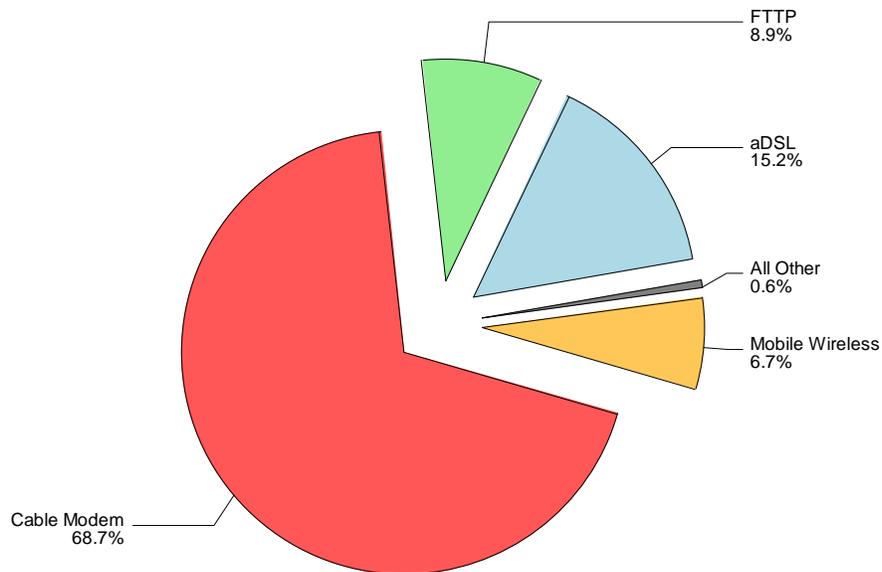
<sup>1</sup> Fiber to the premises. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.

<sup>2</sup> Reporting instructions for mobile wireless changed between the June 2008 and December 2008 data. See Technical Notes at the end of the report.

Note: Some December 2008 and June 2009 data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

**Chart 8**  
**Connections at Least 3 mbps Downstream and 768 kbps Upstream**  
**by Technology as of December 31, 2009**



**Table 10**  
**Residential Connections at Least 3 mbps Downstream and 768 kbps Upstream by Technology 2008-2009**  
(In thousands)

<i>Technology</i>	<i>2008</i>		<i>2009</i>
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	29,127	31,557	39,786
Total Fixed	29,013	31,362	37,149
aDSL	4,613	4,889	5,635
sDSL	1	2	10
Other Wireline	10	11	18
Cable Modem	21,777	23,236	27,856
FTTP <sup>1</sup>	2,571	3,174	3,561
Satellite	0	0	0
Fixed Wireless	42	50	67
Power Line and Other	1	1	1
Mobile Wireless <sup>2</sup>	114	196	2,638

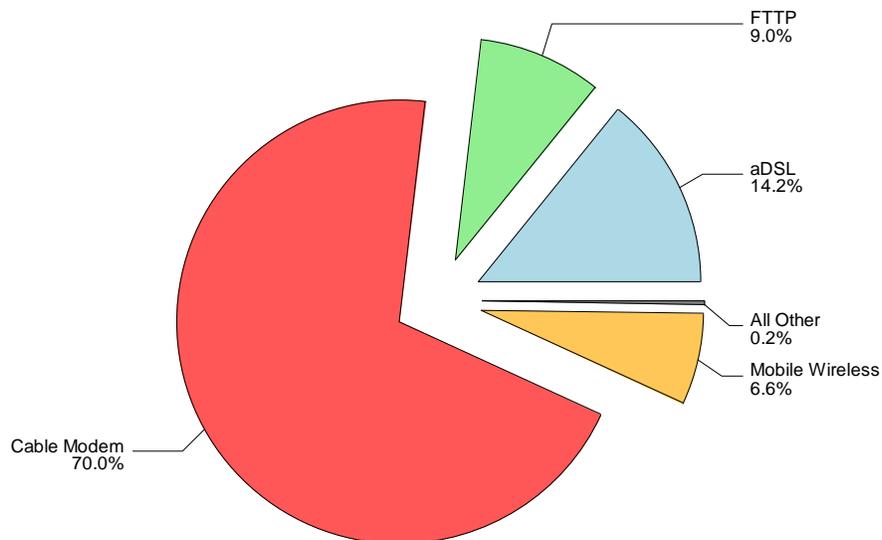
<sup>1</sup> Fiber to the premises. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.

<sup>2</sup> Reporting instructions for mobile wireless changed between the June 2008 and December 2008 data. See Technical Notes at the end of the report.

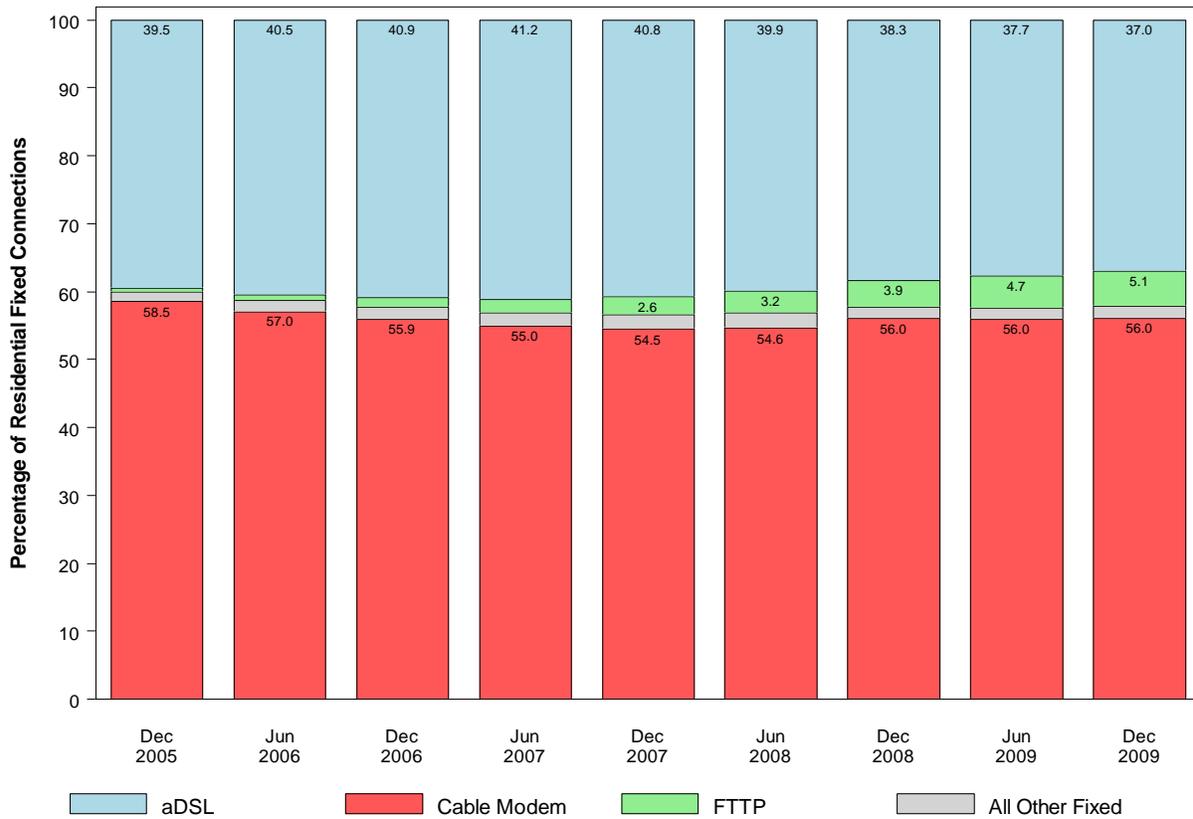
Note: Some December 2008 and June 2009 data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Parts I and VI.

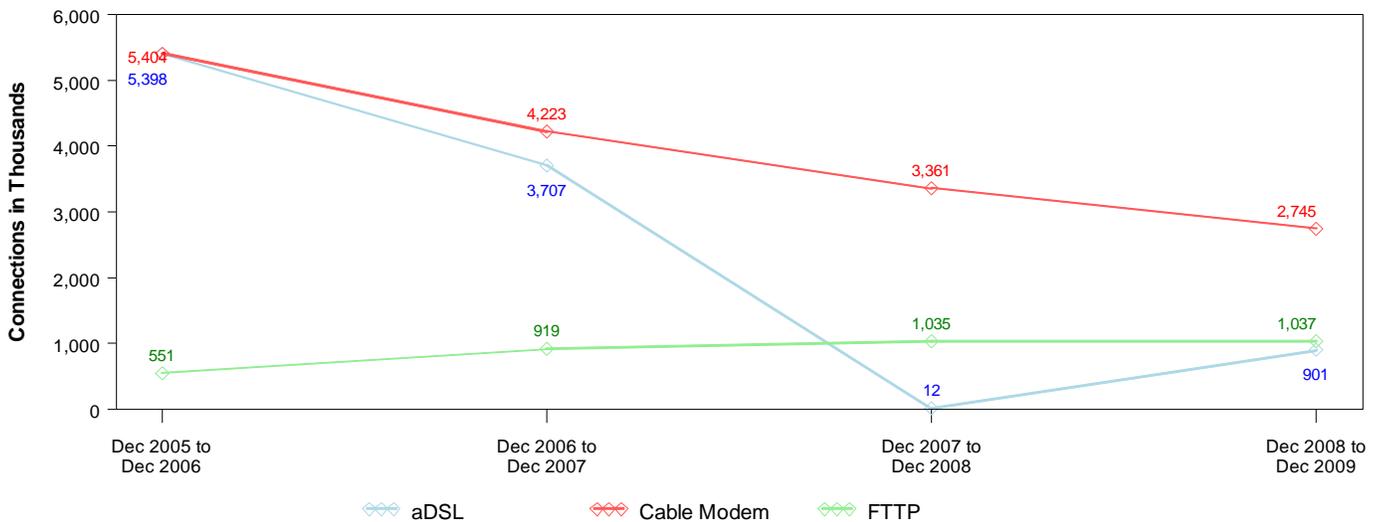
**Chart 9**  
**Residential Connections at Least 3 mbps Downstream and 768 kbps Upstream**  
**by Technology as of December 31, 2009**



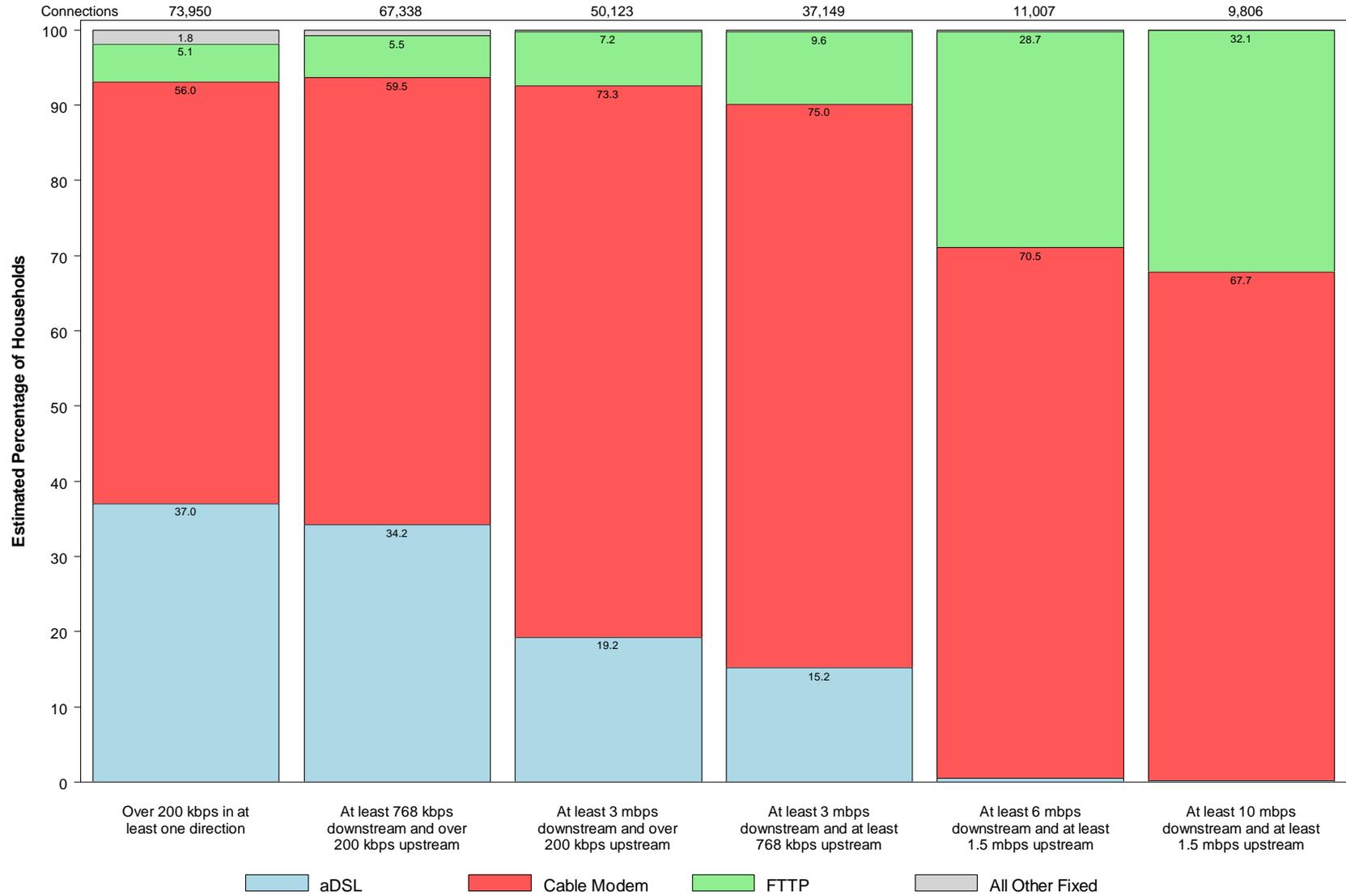
**Chart 10**  
**Residential Fixed Connections over 200 kbps in at Least One Direction 2005-2009**  
 (Shares of selected technologies)



**Chart 11**  
**Residential Fixed Connections over 200 kbps in at Least One Direction 2005-2009**  
 (Net adds for selected technologies)



**Chart 12**  
**Residential Fixed Connections by Technology as of December 31, 2009**  
**(Shares of selected technologies for selected speeds, connections in thousands)**



**Table 11**  
**Residential Connections by Technology and Speed (BTOP/BIP Definition)**  
**as of December 31, 2009**  
(In thousands)

<i>Technology</i>	<i>At Most 200 kbps Upstream or less than 768 kbps Downstream</i>	<i>Over 200 kbps Upstream and at least 768 kbps Downstream</i>	<i>Total</i>
aDSL	4,367	23,021	27,388
sDSL	41	44	85
Other Wireline	3	48	51
Cable Modem	1,368	40,079	41,447
FTTP	21	3,733	3,754
Satellite	677	89	767
Fixed Wireless	132	321	453
Mobile Wireless	14,926	19,509	34,435
Power Line and Other	2	3	5
<b>Total</b>	<b>21,539</b>	<b>86,847</b>	<b>108,386</b>

# = Rounds to Zero.  
Note: Figures may not sum to totals due to rounding.  
Source: FCC Form 477, Parts I and VI.

**Chart 13**  
**Residential Connections (BTOP/BIP Definition) by Technology**  
**as of December 31, 2009**



Note: The BTOP/BIP definition is advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users.  
Source: FCC Form 477, Parts I and VI.

**Table 12**  
**Connections by Speed Tier and Technology as of December 31, 2009**  
(In thousands)

Technology	200 kbps or less Upstream			Over 200 kbps Upstream							Subtotal	Total
	Download over 200 kbps and less than 768 kbps	Download at least 768 kbps	Subtotal	Download over 200 kbps and less than 768 kbps	Download at least 768 kbps and less than 1.5 mbps	Download at least 1.5 mbps and less than 3 mbps	Download at least 3 mbps and less than 6 mbps	Download at least 6 mbps and less than 10 mbps	Download at least 10 mbps and less than 25 mbps	Download at least 25 mbps		
aDSL	1,076	1,494	2,571	2,085	6,067	9,030	9,574	1,284	361	1	28,401	30,971
sDSL	0	0	0	94	72	39	17	*	*	*	225	225
Other Wireline	0	0	0	63	74	430	77	27	21	24	716	716
Cable Modem	298	775	1,073	339	1,607	1,879	5,031	20,164	12,835	200	42,055	43,128
FTTP	6	#	6	20	48	103	405	63	3,246	83	3,969	3,975
Satellite	507	444	950	*	*	*	*	0	0	0	166	1,116
Fixed Wireless	41	19	60	93	135	144	75	10	7	1	466	525
Mobile Wireless	7,362	5,168	12,530	10,432	23,804	2,728	949	*	0	*	39,956	52,486
Power Line and Other	0	0	0	*	*	*	*	0	*	*	5	5
<b>Total</b>	<b>9,289</b>	<b>7,900</b>	<b>17,190</b>	<b>13,131</b>	<b>31,826</b>	<b>14,498</b>	<b>16,131</b>	<b>23,591</b>	<b>16,472</b>	<b>308</b>	<b>115,959</b>	<b>133,148</b>

Percentages

aDSL	3.5	4.8	8.3	6.7	19.6	29.2	30.9	4.1	1.2	0.0	91.7	100.0
sDSL	0.0	0.0	0.0	41.9	32.2	17.5	7.5	*	*	*	100.0	100.0
Other Wireline	0.0	0.0	0.0	8.7	10.4	60.0	10.8	3.7	2.9	3.4	100.0	100.0
Cable Modem	0.7	1.8	2.5	0.8	3.7	4.4	11.7	46.8	29.8	0.5	97.5	100.0
FTTP	0.1	0.0	0.2	0.5	1.2	2.6	10.2	1.6	81.7	2.1	99.8	100.0
Satellite	45.4	39.7	85.1	*	*	*	*	0.0	0.0	0.0	14.9	100.0
Fixed Wireless	7.7	3.7	11.4	17.7	25.6	27.5	14.3	1.9	1.4	0.2	88.6	100.0
Mobile Wireless	14.0	9.8	23.9	19.9	45.4	5.2	1.8	*	0.0	*	76.1	100.0
Power Line and Other	0.0	0.0	0.0	*	*	*	*	0.0	*	*	100.0	100.0
<b>Total</b>	<b>7.0</b>	<b>5.9</b>	<b>12.9</b>	<b>9.9</b>	<b>23.9</b>	<b>10.9</b>	<b>12.1</b>	<b>17.7</b>	<b>12.4</b>	<b>0.2</b>	<b>87.1</b>	<b>100.0</b>

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Note: Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

**Table 13**  
**Residential Connections by Speed Tier and Technology as of December 31, 2009**  
(In thousands)

Technology	200 kbps or less Upstream			Over 200 kbps Upstream							Subtotal	Total
	Download over 200 kbps and less than 768 kbps	Download at least 768 kbps	Subtotal	Download over 200 kbps and less than 768 kbps	Download at least 768 kbps and less than 1.5 mbps	Download at least 1.5 mbps and less than 3 mbps	Download at least 3 mbps and less than 6 mbps	Download at least 6 mbps and less than 10 mbps	Download at least 10 mbps and less than 25 mbps	Download at least 25 mbps		
aDSL	1,018	1,426	2,444	1,923	5,649	7,739	8,215	1,100	318	#	24,944	27,388
sDSL	0	0	0	41	27	6	9	*	*	*	85	85
Other Wireline	0	0	0	3	1	28	7	11	1	#	51	51
Cable Modem	272	770	1,042	326	1,561	1,757	4,659	19,676	12,287	140	40,405	41,447
FTTP	5	#	5	16	39	75	385	56	3,122	56	3,749	3,754
Satellite	356	318	674	*	*	*	*	0	0	0	92	767
Fixed Wireless	34	17	51	82	117	125	64	8	6	#	403	453
Mobile Wireless	4,668	2,519	7,187	7,740	15,318	1,382	865	*	0	*	27,249	34,435
Power Line and Other	0	0	0	*	*	*	*	0	*	*	5	5
<b>Total</b>	<b>6,352</b>	<b>5,050</b>	<b>11,403</b>	<b>10,136</b>	<b>22,725</b>	<b>11,190</b>	<b>14,203</b>	<b>22,797</b>	<b>15,735</b>	<b>196</b>	<b>96,983</b>	<b>108,386</b>

Percentages

aDSL	3.7	5.2	8.9	7.0	20.6	28.3	30.0	4.0	1.2	0.0	91.1	100.0
sDSL	0.0	0.0	0.0	48.8	32.3	7.1	10.6	*	*	*	100.0	100.0
Other Wireline	0.0	0.0	0.0	6.7	2.5	54.5	13.0	22.1	1.0	0.1	100.0	100.0
Cable Modem	0.7	1.9	2.5	0.8	3.8	4.2	11.2	47.5	29.6	0.3	97.5	100.0
FTTP	0.1	0.0	0.1	0.4	1.0	2.0	10.3	1.5	83.2	1.5	99.9	100.0
Satellite	46.4	41.5	87.9	*	*	*	*	0.0	0.0	0.0	12.1	100.0
Fixed Wireless	7.4	3.8	11.2	18.0	25.8	27.6	14.1	1.7	1.4	0.1	88.8	100.0
Mobile Wireless	13.6	7.3	20.9	22.5	44.5	4.0	2.5	*	0.0	*	79.1	100.0
Power Line and Other	0.0	0.0	0.0	*	*	*	*	0.0	*	*	100.0	100.0
<b>Total</b>	<b>5.9</b>	<b>4.7</b>	<b>10.5</b>	<b>9.4</b>	<b>21.0</b>	<b>10.3</b>	<b>13.1</b>	<b>21.0</b>	<b>14.5</b>	<b>0.2</b>	<b>89.5</b>	<b>100.0</b>

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Note: Figures may not sum to totals due to rounding.

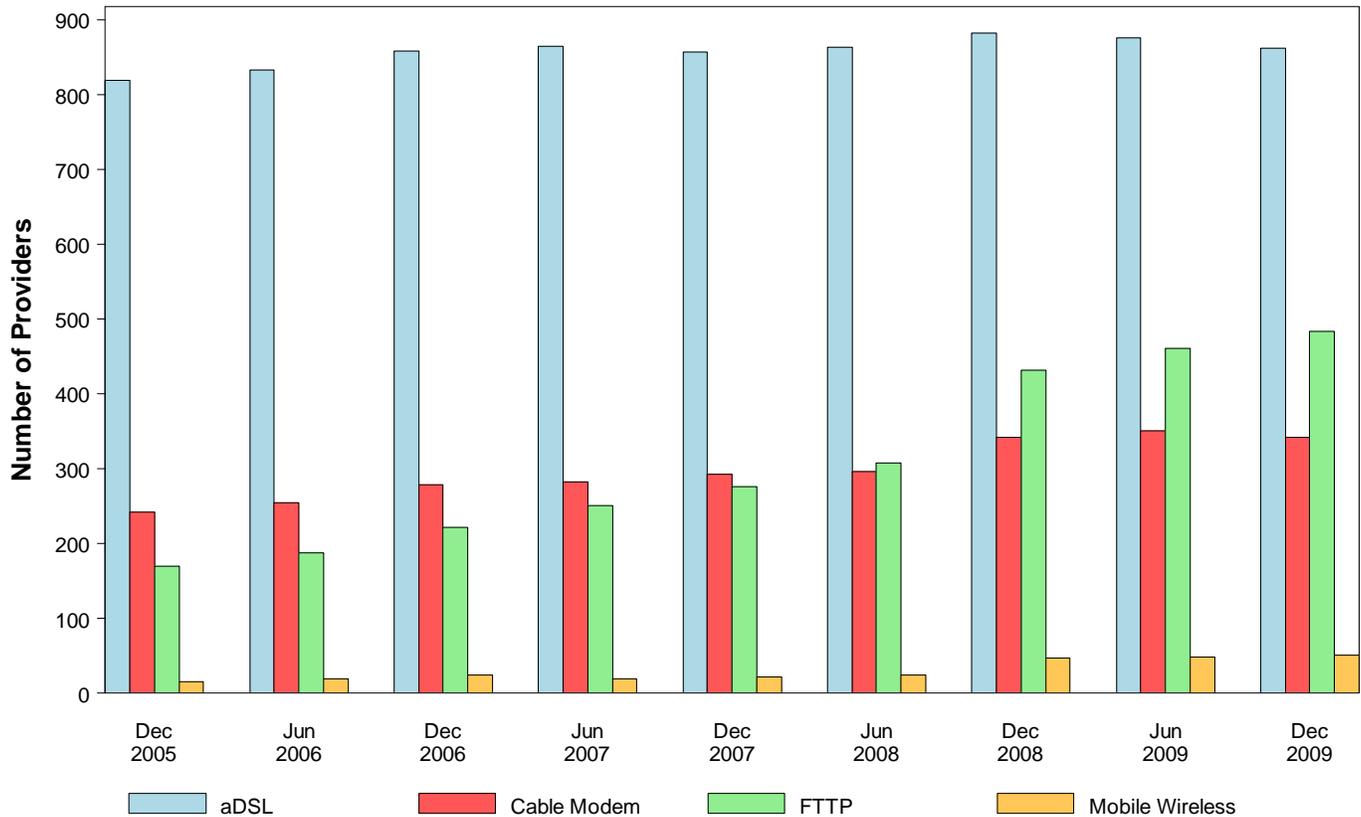
Source: FCC Form 477, Part I.

**Table 14**  
**Nationwide Number of Providers of Connections over 200 kbps in at Least One Direction**  
**by Technology as of December 31, 2009**

<i>Technology</i>	2005		2006		2007		2008		2009	
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	
aDSL	818	833	858	864	856	863	<b>882</b>	<b>875</b>	<b>861</b>	
sDSL	269	256	257	242	233	238	<b>264</b>	<b>257</b>	<b>260</b>	
Other Wireline	241	246	256	246	250	259	<b>291</b>	<b>283</b>	<b>274</b>	
Cable Modem	242	254	279	282	292	296	<b>342</b>	<b>351</b>	<b>342</b>	
FTTP	170	187	222	251	276	308	<b>432</b>	<b>461</b>	<b>483</b>	
Satellite	4	5	5	5	5	4	<b>5</b>	<b>4</b>	<b>4</b>	
Fixed Wireless	463	452	505	484	514	505	<b>621</b>	<b>619</b>	<b>603</b>	
Mobile Wireless	15	19	24	19	22	24	<b>47</b>	<b>48</b>	<b>51</b>	
Power Line and Other	7	6	6	6	7	6	<b>5</b>	<b>6</b>	<b>6</b>	
<b>Total</b>	<b>1,345</b>	<b>1,327</b>	<b>1,396</b>	<b>1,374</b>	<b>1,399</b>	<b>1,395</b>	<b>1,563</b>	<b>1,548</b>	<b>1,519</b>	

Note: Some December 2008 and June 2009 data have been revised. Multiple Form 477 filers within a holding company structure count as one provider.  
Source: FCC Form 477, Part I.

**Chart 14**  
**Nationwide Number of Providers of Connections over 200 kbps in at Least One Direction**  
**Selected Technologies 2005-2009**



## Detailed Summary Statistics: The States

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**Table 15**  
**Residential Fixed Connections (Approximating the National Broadband Availability Target)**  
**and Households by State as of December 31, 2009**

(Connections with advertised speeds at least 3 mbps down and 768 up and households, in thousands)

<i>State</i>	<i>Connections</i>	<i>Households</i>	<i>Subscribership Ratio</i>
Alabama	323	1,867	0.17
Alaska	*	252	*
American Samoa	0	9	0.00
Arizona	905	2,464	0.37
Arkansas	131	1,144	0.11
California	4,580	12,634	0.36
Colorado	836	1,978	0.42
Connecticut	594	1,358	0.44
Delaware	204	343	0.59
District of Columbia	133	270	0.49
Florida	2,471	7,344	0.34
Georgia	916	3,697	0.25
Guam	*	39	*
Hawaii	*	436	*
Idaho	66	575	0.11
Illinois	1,444	4,803	0.30
Indiana	663	2,493	0.27
Iowa	150	1,197	0.12
Kansas	238	1,101	0.22
Kentucky	430	1,718	0.25
Louisiana	369	1,694	0.22
Maine	66	539	0.12
Maryland	1,284	2,158	0.59
Massachusetts	1,596	2,568	0.62
Michigan	1,268	3,808	0.33
Minnesota	687	2,046	0.34
Mississippi	109	1,098	0.10
Missouri	410	2,374	0.17
Montana	104	394	0.26
Nebraska	195	709	0.27
Nevada	334	1,008	0.33
New Hampshire	255	513	0.50
New Jersey	2,149	3,192	0.67
New Mexico	173	759	0.23
New York	3,141	7,339	0.43
North Carolina	308	3,737	0.08
North Dakota	75	262	0.29
Northern Mariana Isl	*	14	*
Ohio	543	4,540	0.12
Oklahoma	279	1,455	0.19
Oregon	629	1,522	0.41
Pennsylvania	2,163	4,927	0.44
Puerto Rico	*	1,262	*
Rhode Island	*	410	*
South Carolina	302	1,783	0.17
South Dakota	95	317	0.30
Tennessee	659	2,511	0.26
Texas	1,401	8,977	0.16
Utah	316	894	0.35
Vermont	111	248	0.45
Virgin Islands	0	41	0.00
Virginia	1,528	3,052	0.50
Washington	1,188	2,615	0.45
West Virginia	224	747	0.30
Wisconsin	454	2,220	0.20
Wyoming	74	219	0.34
<b>Total</b>	<b>37,149</b>	<b>117,671</b>	<b>0.32</b>

# = Rounds to Zero; \* = Data withheld to maintain firm confidentiality.

Note: Figures may not sum to totals due to rounding.

Sources: FCC Form 477, Part VI (Connections); Geolytics 2010 Block-Level Estimates (Households for U.S. and District of Columbia); Census 2000 (Households for Puerto Rico, American Samoa, Guam, Northern Mariana Islands and U.S. Virgin Islands).

**Table 16**  
**Residential Fixed Connections and Households by State as of December 31, 2009**  
(Connections over 200 kbps in at least one direction and households, in thousands)

<i>State</i>	<i>Connections</i>	<i>Households</i>	<i>Subscribership Ratio</i>
Alabama	944	1,867	0.51
Alaska	168	252	0.67
American Samoa	*	9	*
Arizona	1,566	2,464	0.64
Arkansas	540	1,144	0.47
California	8,736	12,634	0.69
Colorado	1,346	1,978	0.68
Connecticut	1,019	1,358	0.75
Delaware	246	343	0.72
District of Columbia	175	270	0.65
Florida	4,980	7,344	0.68
Georgia	2,169	3,697	0.59
Guam	*	39	*
Hawaii	*	436	*
Idaho	311	575	0.54
Illinois	3,058	4,803	0.64
Indiana	1,386	2,493	0.56
Iowa	712	1,197	0.60
Kansas	690	1,101	0.63
Kentucky	913	1,718	0.53
Louisiana	924	1,694	0.55
Maine	346	539	0.64
Maryland	1,538	2,158	0.71
Massachusetts	1,920	2,568	0.75
Michigan	2,243	3,808	0.59
Minnesota	1,281	2,046	0.63
Mississippi	471	1,098	0.43
Missouri	1,336	2,374	0.56
Montana	224	394	0.57
Nebraska	443	709	0.62
Nevada	610	1,008	0.61
New Hampshire	393	513	0.77
New Jersey	2,457	3,192	0.77
New Mexico	403	759	0.53
New York	5,092	7,339	0.69
North Carolina	2,269	3,737	0.61
North Dakota	165	262	0.63
Northern Mariana Isl	*	14	*
Ohio	2,815	4,540	0.62
Oklahoma	755	1,455	0.52
Oregon	943	1,522	0.62
Pennsylvania	3,306	4,927	0.67
Puerto Rico	423	1,262	0.34
Rhode Island	285	410	0.70
South Carolina	982	1,783	0.55
South Dakota	189	317	0.60
Tennessee	1,285	2,511	0.51
Texas	5,232	8,977	0.58
Utah	575	894	0.64
Vermont	162	248	0.65
Virgin Islands	11	41	0.28
Virginia	1,960	3,052	0.64
Washington	1,700	2,615	0.65
West Virginia	389	747	0.52
Wisconsin	1,374	2,220	0.62
Wyoming	127	219	0.58
<b>Total</b>	<b>73,950</b>	<b>117,671</b>	<b>0.63</b>

# = Rounds to Zero; \* = Data withheld to maintain firm confidentiality.

Note: Figures may not sum to totals due to rounding.

Sources: FCC Form 477, Part VI (Connections); Geolytics 2010 Block-Level Estimates (Households for U.S. and District of Columbia); Census 2000 (Households for Puerto Rico, American Samoa, Guam, Northern Mariana Islands and U.S. Virgin Islands).

**Table 17**  
**Connections by Type of End User by State as of December 31, 2009**  
 (Connections over 200 kbps in at least one direction, in thousands)

State	Connections		Percentages		Total
	Residential	Business	Residential	Business	
Alabama	1,397	283	83.2	16.8	1,680
Alaska	254	74	77.4	22.6	329
American Samoa	*	*	*	*	*
Arizona	2,303	434	84.1	15.9	2,737
Arkansas	743	194	79.3	20.7	937
California	13,298	3,231	80.5	19.5	16,529
Colorado	1,967	455	81.2	18.8	2,422
Connecticut	1,447	337	81.1	18.9	1,784
Delaware	351	71	83.2	16.8	421
District of Columbia	313	209	60.0	40.0	521
Florida	7,027	1,572	81.7	18.3	8,600
Georgia	3,339	769	81.3	18.7	4,108
Guam	33	6	84.2	15.8	39
Hawaii	560	112	83.3	16.7	672
Idaho	459	97	82.6	17.4	555
Illinois	4,601	1,051	81.4	18.6	5,651
Indiana	1,891	440	81.1	18.9	2,332
Iowa	978	173	85.0	15.0	1,150
Kansas	968	212	82.0	18.0	1,180
Kentucky	1,193	274	81.3	18.7	1,467
Louisiana	1,464	371	79.8	20.2	1,835
Maine	445	79	84.9	15.1	524
Maryland	2,330	546	81.0	19.0	2,876
Massachusetts	2,723	551	83.2	16.8	3,274
Michigan	2,964	700	80.9	19.1	3,665
Minnesota	1,787	393	82.0	18.0	2,180
Mississippi	806	174	82.3	17.7	979
Missouri	1,850	477	79.5	20.5	2,326
Montana	311	57	84.5	15.5	368
Nebraska	553	127	81.3	18.7	681
Nevada	996	224	81.6	18.4	1,220
New Hampshire	518	94	84.7	15.3	612
New Jersey	3,713	816	82.0	18.0	4,529
New Mexico	603	107	84.9	15.1	710
New York	7,631	1,527	83.3	16.7	9,157
North Carolina	3,366	690	83.0	17.0	4,056
North Dakota	198	36	84.5	15.5	234
Northern Mariana Isl	*	*	*	*	*
Ohio	3,771	798	82.5	17.5	4,570
Oklahoma	1,149	296	79.5	20.5	1,444
Oregon	1,378	301	82.1	17.9	1,679
Pennsylvania	4,485	926	82.9	17.1	5,411
Puerto Rico	566	89	86.5	13.5	654
Rhode Island	401	87	82.2	17.8	488
South Carolina	1,353	272	83.2	16.8	1,625
South Dakota	230	38	85.8	14.2	268
Tennessee	1,939	459	80.9	19.1	2,398
Texas	8,646	2,378	78.4	21.6	11,024
Utah	853	216	79.8	20.2	1,069
Vermont	207	42	83.3	16.7	249
Virgin Islands	32	9	77.1	22.9	41
Virginia	2,948	752	79.7	20.3	3,700
Washington	2,533	654	79.5	20.5	3,187
West Virginia	498	102	83.0	17.0	599
Wisconsin	1,842	347	84.1	15.9	2,190
Wyoming	172	30	84.9	15.1	202
<b>Total</b>	<b>108,386</b>	<b>24,763</b>	<b>81.4</b>	<b>18.6</b>	<b>133,148</b>

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I and VI.

**Table 18**  
**Connections by Technology by State as of December 31, 2009**  
(Connections over 200 kbps in at least one direction, in thousands)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Power Line and Other</i>	<i>Total</i>
Alabama	496	5	11	501	5	*	3	634	*	1,680
Alaska	77	4	#	*	#	*	6	134	0	329
American Samoa	*	*	0	0	0	0	*	0	0	*
Arizona	518	2	14	1,105	3	*	21	1,055	*	2,737
Arkansas	308	#	*	265	3	*	1	336	0	937
California	4,568	17	*	4,303	459	*	26	6,964	0	16,529
Colorado	651	3	20	737	5	*	39	945	*	2,422
Connecticut	*	2	5	655	2	*	*	685	0	1,784
Delaware	*	#	4	*	*	*	0	157	0	421
District of Columbia	*	1	5	*	1	*	*	325	0	521
Florida	1,988	4	*	3,067	289	*	5	3,140	0	8,600
Georgia	1,256	2	*	1,056	22	*	#	1,710	0	4,108
Guam	*	*	*	*	0	0	0	*	0	39
Hawaii	*	*	1	*	1	*	*	316	0	672
Idaho	174	1	*	133	2	*	20	214	0	555
Illinois	1,556	7	*	1,647	7	*	38	2,327	0	5,651
Indiana	721	4	9	655	65	*	26	827	*	2,332
Iowa	362	3	*	360	15	*	24	365	0	1,150
Kansas	260	1	*	435	21	*	21	422	0	1,180
Kentucky	454	10	*	498	6	*	6	470	0	1,467
Louisiana	404	1	*	561	24	*	3	810	0	1,835
Maine	125	4	*	238	2	*	3	144	0	524
Maryland	405	3	17	796	*	*	1	1,230	0	2,876
Massachusetts	*	4	16	1,309	*	*	2	1,233	0	3,274
Michigan	857	8	18	1,487	5	*	22	1,219	*	3,665
Minnesota	590	21	*	722	18	*	13	784	0	2,180
Mississippi	255	1	*	236	1	*	#	453	0	979
Missouri	805	1	14	587	6	*	13	855	*	2,326
Montana	115	1	2	108	3	*	14	*	0	368
Nebraska	164	1	*	295	3	*	18	192	0	681

**Table 18 - Continued**  
**Connections by Technology by State as of December 31, 2009**  
(Connections over 200 kbps in at least one direction, in thousands)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Power Line and Other</i>	<i>Total</i>
Nevada	229	1	6	*	2	*	3	554	0	1,220
New Hampshire	86	2	3	314	*	*	*	186	0	612
New Jersey	568	3	28	1,650	*	*	*	1,865	0	4,529
New Mexico	250	#	*	162	2	*	16	265	0	710
New York	1,046	15	40	3,887	*	*	2	3,643	0	9,157
North Carolina	969	1	*	1,444	11	*	1	1,572	0	4,056
North Dakota	67	1	1	93	16	*	6	*	0	234
Northern Mariana Isl	*	0	*	*	*	0	*	*	0	*
Ohio	1,127	12	16	1,815	17	*	21	1,528	*	4,570
Oklahoma	359	#	*	432	7	*	8	601	0	1,444
Oregon	367	7	*	559	71	*	7	642	0	1,679
Pennsylvania	1,218	8	19	1,891	*	*	2	1,878	0	5,411
Puerto Rico	*	*	3	*	*	*	*	*	0	654
Rhode Island	*	1	1	*	*	*	*	180	0	488
South Carolina	428	1	*	602	20	*	#	548	0	1,625
South Dakota	58	2	#	127	12	*	8	*	0	268
Tennessee	559	11	*	770	31	*	2	977	0	2,398
Texas	2,784	11	*	2,407	313	*	42	5,290	0	11,024
Utah	309	4	*	263	12	*	32	439	0	1,069
Vermont	81	*	2	86	5	*	*	67	0	249
Virgin Islands	*	*	*	0	0	*	*	*	0	41
Virginia	536	2	27	1,123	*	*	6	1,582	*	3,700
Washington	593	5	13	1,140	54	*	9	1,344	*	3,187
West Virginia	161	*	2	229	1	*	2	185	0	599
Wisconsin	612	19	6	802	8	*	18	696	*	2,190
Wyoming	58	2	*	74	1	*	5	56	0	202
<b>Total</b>	<b>30,971</b>	<b>225</b>	<b>716</b>	<b>43,128</b>	<b>3,975</b>	<b>1,116</b>	<b>525</b>	<b>52,486</b>	<b>5</b>	<b>133,148</b>

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

**Table 19**  
**Connections by Technology by State as of December 31, 2009**  
(Connections at least 3 mbps downstream and 768 kbps upstream, in thousands)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Power Line and Other</i>	<i>Total</i>
Alabama	32	#	*	304	2	*	#	0	0	340
Alaska	*	*	*	*	#	*	*	0	0	*
American Samoa	0	0	0	0	0	0	0	0	0	0
Arizona	*	*	2	775	2	*	#	0	*	937
Arkansas	23	*	1	113	1	*	0	0	0	138
California	698	*	15	3,608	433	*	7	*	0	4,760
Colorado	*	*	4	656	2	*	13	*	*	885
Connecticut	*	*	2	588	2	0	*	0	0	620
Delaware	*	0	#	*	*	0	0	0	0	217
District of Columbia	*	0	2	*	1	0	*	0	0	148
Florida	228	#	21	2,088	*	*	1	*	0	2,616
Georgia	84	*	6	846	16	*	#	*	0	997
Guam	*	*	*	*	0	0	0	0	0	*
Hawaii	*	*	#	*	1	0	*	*	0	334
Idaho	53	*	#	17	1	*	4	*	0	82
Illinois	162	1	6	1,327	4	*	7	*	0	1,700
Indiana	142	*	1	499	60	0	1	*	0	708
Iowa	63	#	1	97	3	*	*	*	0	312
Kansas	27	#	1	214	7	*	#	*	0	249
Kentucky	84	*	1	358	2	*	*	*	0	456
Louisiana	4	*	1	359	16	*	#	0	0	380
Maine	65	#	#	19	2	*	*	*	0	125
Maryland	*	*	4	709	*	*	#	*	0	1,369
Massachusetts	*	*	4	1,151	*	*	#	0	0	1,677
Michigan	104	1	*	1,206	4	*	#	0	0	1,317
Minnesota	117	1	2	591	9	*	#	*	0	721
Mississippi	3	*	#	115	1	*	0	0	0	118
Missouri	71	*	4	351	3	*	#	0	0	429
Montana	16	#	#	*	1	*	#	0	0	113
Nebraska	30	*	*	174	1	0	1	0	0	207

**Table 19 - Continued**  
**Connections by Technology by State as of December 31, 2009**  
(Connections at least 3 mbps downstream and 768 kbps upstream, in thousands)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Power Line and Other</i>	<i>Total</i>
Nevada	27	*	1	*	1	*	2	*	0	373
New Hampshire	43	*	#	*	*	*	0	*	0	282
New Jersey	*	*	8	*	*	*	*	*	0	2,511
New Mexico	53	*	1	130	1	*	#	*	0	185
New York	531	*	12	2,381	*	*	1	*	0	4,056
North Carolina	144	*	5	193	7	*	#	*	0	443
North Dakota	12	*	#	*	5	0	*	0	0	81
Northern Mariana Isl	*	0	0	0	*	0	*	0	0	*
Ohio	307	*	3	305	13	*	1	*	*	635
Oklahoma	23	*	1	*	4	*	*	*	0	330
Oregon	88	#	1	510	68	*	#	*	0	688
Pennsylvania	535	*	6	1,392	*	*	#	*	0	2,525
Puerto Rico	*	*	#	*	*	0	*	0	0	3
Rhode Island	*	*	#	*	*	0	*	0	0	*
South Carolina	40	*	2	267	14	*	#	*	0	325
South Dakota	15	0	*	*	6	0	#	0	0	101
Tennessee	17	*	3	*	15	*	#	*	0	717
Texas	419	#	10	791	275	*	7	*	0	2,224
Utah	*	*	1	232	11	*	19	0	0	333
Vermont	47	*	#	*	3	0	0	*	0	123
Virgin Islands	0	0	*	0	0	0	*	0	0	*
Virginia	289	*	8	957	*	*	1	*	0	1,758
Washington	159	*	2	1,039	46	*	3	*	0	1,259
West Virginia	*	0	#	157	#	*	*	*	0	257
Wisconsin	72	3	1	395	5	*	2	*	0	652
Wyoming	10	*	#	*	*	*	#	0	0	79
<b>Total</b>	<b>6,391</b>	<b>19</b>	<b>149</b>	<b>28,988</b>	<b>3,734</b>	<b>*</b>	<b>81</b>	<b>2,820</b>	<b>*</b>	<b>42,184</b>

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

**Table 20**  
**Percentage of Connections by Download Speed by State as of December 31, 2009**  
**(Connections over 200 kbps in at least one direction)**

State	Over 200 kbps Upstream and				
	% over 200 kbps Downstream	% at least 768 kbps Downstream	% at least 3 mbps Downstream	% at least 6 mbps Downstream	% at least 10 mbps Downstream
Alabama	86.3	76.1	36.7	15.0	4.4
Alaska	83.3	72.6	24.7	11.2	3.3
American Samoa	*	*	*	*	*
Arizona	88.5	74.7	37.4	34.0	24.4
Arkansas	89.5	77.8	29.9	19.4	10.2
California	89.5	78.8	33.7	24.1	11.1
Colorado	89.9	78.0	39.5	35.9	3.0
Connecticut	89.2	78.8	40.1	31.6	17.7
Delaware	86.2	74.7	54.5	46.9	19.0
District of Columbia	73.1	61.7	29.6	18.9	6.1
Florida	88.4	82.3	44.1	34.3	13.8
Georgia	85.4	76.9	38.2	21.3	3.1
Guam	*	*	*	*	*
Hawaii	94.1	87.2	52.4	4.4	1.1
Idaho	85.3	72.0	38.0	10.6	2.8
Illinois	89.8	79.1	37.5	25.3	6.2
Indiana	86.3	75.0	38.3	27.1	8.8
Iowa	89.2	77.1	51.0	28.9	7.0
Kansas	86.5	77.2	36.4	26.9	15.8
Kentucky	88.3	81.3	46.3	28.3	24.4
Louisiana	88.7	83.0	35.0	20.4	13.9
Maine	86.3	80.5	59.5	38.9	2.6
Maryland	83.6	72.8	48.6	38.6	18.5
Massachusetts	85.9	77.4	52.9	40.4	15.6
Michigan	84.9	74.8	41.4	27.5	5.6
Minnesota	88.5	78.0	39.8	28.4	5.3
Mississippi	89.8	67.6	28.9	13.9	1.1
Missouri	87.3	77.8	31.6	14.4	5.5
Montana	77.8	59.8	33.2	28.2	1.9
Nebraska	83.7	72.0	45.4	30.4	4.0

**Table 20 - Continued**  
**Percentage of Connections by Download Speed by State as of December 31, 2009**  
 (Connections over 200 kbps in at least one direction)

State	Over 200 kbps Upstream and				
	% over 200 kbps Downstream	% at least 768 kbps Downstream	% at least 3 mbps Downstream	% at least 6 mbps Downstream	% at least 10 mbps Downstream
Nevada	90.7	82.4	36.7	25.0	22.8
New Hampshire	83.9	73.6	58.6	46.6	8.6
New Jersey	84.7	74.5	56.8	49.7	31.9
New Mexico	87.1	71.7	32.3	25.5	1.9
New York	85.9	77.9	58.5	48.0	40.1
North Carolina	82.9	73.8	43.8	27.4	3.7
North Dakota	90.1	75.3	55.0	34.4	30.2
Northern Mariana Isl	*	*	*	*	*
Ohio	82.2	70.2	40.4	28.9	5.4
Oklahoma	91.9	86.3	34.5	21.2	18.0
Oregon	90.6	81.3	45.0	35.6	6.7
Pennsylvania	85.1	75.5	52.3	37.4	12.1
Puerto Rico	93.5	76.4	23.5	1.2	0.1
Rhode Island	88.3	81.0	53.8	46.5	46.0
South Carolina	80.5	69.0	43.1	25.0	4.1
South Dakota	85.3	72.7	56.6	36.1	33.2
Tennessee	83.7	70.8	38.5	23.0	3.0
Texas	88.5	79.5	38.2	26.6	5.0
Utah	91.7	80.3	35.6	29.7	3.7
Vermont	81.6	74.1	52.1	34.3	4.0
Virgin Islands	77.6	49.9	*	*	*
Virginia	83.3	72.4	49.2	38.4	22.5
Washington	89.8	80.6	43.4	36.7	8.4
West Virginia	88.1	83.2	47.5	28.3	2.5
Wisconsin	89.6	80.6	47.2	21.7	6.9
Wyoming	86.9	66.8	42.9	36.0	1.5
Total	87.1	77.2	42.4	30.3	12.6

\* = Data withheld to maintain firm confidentiality.  
 Source: FCC Form 477, Part I.

**Table 21**  
**ADSL Connections by State 2005-2009**  
(Connections over 200 kbps in at least one direction, in thousands)

State	2005		2006		2007		2008		2009	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
Alabama	221	269	315	357	403	431	<b>457</b>	<b>473</b>	<b>496</b>	
Alaska	43	54	60	64	68	72	<b>75</b>	<b>77</b>	<b>77</b>	
American Samoa	*	*	*	*	*	*	*	*	*	
Arizona	208	276	365	406	437	454	<b>466</b>	<b>487</b>	<b>518</b>	
Arkansas	150	181	200	227	249	267	<b>273</b>	<b>298</b>	<b>308</b>	
California	3,592	4,002	4,343	4,626	4,780	4,755	<b>4,617</b>	<b>4,587</b>	<b>4,568</b>	
Colorado	333	405	473	530	573	575	<b>624</b>	<b>641</b>	<b>651</b>	
Connecticut	*	*	*	*	*	*	*	*	*	
Delaware	*	*	*	*	*	*	*	*	*	
District of Columbia	*	*	*	*	*	*	*	*	*	
Florida	1,509	1,723	1,873	1,960	2,046	2,045	<b>2,005</b>	<b>1,962</b>	<b>1,988</b>	
Georgia	890	1,009	1,126	1,219	1,307	1,361	<b>1,240</b>	<b>1,251</b>	<b>1,256</b>	
Guam	*	*	*	*	*	*	*	*	*	
Hawaii	*	*	*	*	*	*	*	*	*	
Idaho	82	98	113	129	142	154	<b>160</b>	<b>169</b>	<b>174</b>	
Illinois	980	1,094	1,212	1,300	1,382	1,419	<b>1,503</b>	<b>1,538</b>	<b>1,556</b>	
Indiana	379	443	515	584	636	651	<b>672</b>	<b>699</b>	<b>721</b>	
Iowa	151	189	233	271	298	322	<b>336</b>	<b>351</b>	<b>362</b>	
Kansas	160	179	203	225	236	241	<b>243</b>	<b>250</b>	<b>260</b>	
Kentucky	213	251	303	340	367	385	<b>421</b>	<b>431</b>	<b>454</b>	
Louisiana	207	236	271	306	333	354	<b>385</b>	<b>390</b>	<b>404</b>	
Maine	73	90	105	115	118	120	<b>114</b>	<b>123</b>	<b>125</b>	
Maryland	379	450	490	512	514	495	<b>471</b>	<b>440</b>	<b>405</b>	
Massachusetts	*	*	*	*	*	*	*	*	*	
Michigan	463	534	607	690	733	749	<b>780</b>	<b>835</b>	<b>857</b>	
Minnesota	276	331	395	449	496	529	<b>544</b>	<b>573</b>	<b>590</b>	
Mississippi	106	129	154	180	202	220	<b>229</b>	<b>240</b>	<b>255</b>	
Missouri	399	468	546	618	683	712	<b>727</b>	<b>767</b>	<b>805</b>	
Montana	57	70	83	96	102	108	<b>108</b>	<b>111</b>	<b>115</b>	
Nebraska	81	95	112	124	135	143	<b>151</b>	<b>158</b>	<b>164</b>	

**Table 21 - Continued**  
**ADSL Connections by State 2005-2009**  
(Connections over 200 kbps in at least one direction, in thousands)

State	2005		2006		2007		2008		2009	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
Nevada	140	168	190	207	220	225	<b>222</b>	<b>225</b>	<b>229</b>	
New Hampshire	72	85	94	98	100	97	<b>91</b>	<b>91</b>	<b>86</b>	
New Jersey	540	638	704	735	735	700	<b>666</b>	<b>624</b>	<b>568</b>	
New Mexico	105	131	157	180	200	217	<b>231</b>	<b>242</b>	<b>250</b>	
New York	861	1,003	1,104	1,182	1,184	1,169	<b>1,122</b>	<b>1,100</b>	<b>1,046</b>	
North Carolina	489	561	648	725	820	870	<b>891</b>	<b>918</b>	<b>969</b>	
North Dakota	32	39	46	51	56	60	<b>65</b>	<b>64</b>	<b>67</b>	
Northern Mariana Isl	*	*	*	*	*	*	*	*	*	
Ohio	663	753	859	951	1,024	1,034	<b>1,069</b>	<b>1,109</b>	<b>1,127</b>	
Oklahoma	222	247	277	302	324	334	<b>338</b>	<b>349</b>	<b>359</b>	
Oregon	245	280	312	339	356	361	<b>371</b>	<b>367</b>	<b>367</b>	
Pennsylvania	692	871	1,013	1,126	1,191	1,209	<b>1,231</b>	<b>1,233</b>	<b>1,218</b>	
Puerto Rico	*	*	*	*	*	*	*	*	*	
Rhode Island	*	*	*	*	*	*	*	*	*	
South Carolina	206	243	285	323	359	386	<b>400</b>	<b>412</b>	<b>428</b>	
South Dakota	26	33	40	46	48	53	<b>56</b>	<b>58</b>	<b>58</b>	
Tennessee	294	348	397	447	499	535	<b>541</b>	<b>549</b>	<b>559</b>	
Texas	1,514	1,733	1,997	2,294	2,464	2,475	<b>2,608</b>	<b>2,706</b>	<b>2,784</b>	
Utah	160	189	222	250	270	284	<b>299</b>	<b>280</b>	<b>309</b>	
Vermont	44	51	61	68	72	73	<b>61</b>	<b>79</b>	<b>81</b>	
Virgin Islands	*	*	*	*	*	*	*	*	*	
Virginia	384	446	505	548	568	561	<b>553</b>	<b>547</b>	<b>536</b>	
Washington	427	491	534	569	592	600	<b>599</b>	<b>596</b>	<b>593</b>	
West Virginia	69	87	105	124	138	147	<b>152</b>	<b>160</b>	<b>161</b>	
Wisconsin	298	360	418	484	528	556	<b>556</b>	<b>586</b>	<b>612</b>	
Wyoming	33	39	44	50	53	55	<b>57</b>	<b>58</b>	<b>58</b>	
<b>Total</b>	<b>19,515</b>	<b>22,584</b>	<b>25,413</b>	<b>27,793</b>	<b>29,449</b>	<b>29,964</b>	<b>30,198</b>	<b>30,618</b>	<b>30,971</b>	

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Note: Some December 2008 and June 2009 data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

**Table 22**  
**Cable Modem Connections by State 2005-2009**  
(Connections over 200 kbps in at least one direction, in thousands)

State	2005		2006		2007		2008		2009	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
Alabama	285	311	342	374	399	417	460	482	501	
Alaska	*	*	*	*	*	*	*	*	*	
American Samoa	0	0	0	0	0	0	0	0	0	
Arizona	679	761	838	850	897	992	1,044	1,043	1,105	
Arkansas	137	149	184	205	214	236	248	254	265	
California	2,735	2,957	3,156	3,411	3,603	3,799	3,990	4,157	4,303	
Colorado	433	476	523	561	604	626	659	697	737	
Connecticut	404	441	454	513	550	576	615	627	655	
Delaware	*	*	*	*	*	*	*	*	*	
District of Columbia	*	*	*	*	*	*	*	*	*	
Florida	1,758	1,939	2,178	2,344	2,543	2,631	2,825	2,896	3,067	
Georgia	584	650	743	802	862	904	974	1,035	1,056	
Guam	0	0	0	0	*	*	*	*	*	
Hawaii	*	*	*	*	*	*	*	*	*	
Idaho	74	75	109	116	123	127	121	130	133	
Illinois	956	1,042	1,332	1,466	1,570	1,625	1,591	1,597	1,647	
Indiana	445	490	370	410	439	456	626	649	655	
Iowa	220	225	234	268	287	309	330	344	360	
Kansas	273	317	321	351	369	380	415	419	435	
Kentucky	269	306	333	384	435	482	452	483	498	
Louisiana	255	379	420	446	485	481	518	546	561	
Maine	132	146	152	169	179	197	202	224	238	
Maryland	592	637	781	829	865	871	801	782	796	
Massachusetts	886	955	1,044	1,088	1,136	1,159	1,291	1,253	1,309	
Michigan	954	1,019	1,103	1,197	1,265	1,307	1,394	1,460	1,487	
Minnesota	494	517	541	571	608	622	666	687	722	
Mississippi	104	114	136	152	166	188	216	230	236	
Missouri	353	401	444	473	498	517	560	562	587	
Montana	45	54	65	74	83	90	92	102	108	
Nebraska	201	218	239	238	252	262	278	286	295	

**Table 22 - Continued**  
**Cable Modem Connections by State 2005-2009**  
(Connections over 200 kbps in at least one direction, in thousands)

State	2005		2006		2007		2008		2009	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
Nevada	*	*	*	*	*	*	*	*	*	*
New Hampshire	188	202	210	230	240	250	<b>285</b>	<b>294</b>	<b>314</b>	
New Jersey	1,205	1,312	1,386	1,474	1,538	1,586	<b>1,637</b>	<b>1,631</b>	<b>1,650</b>	
New Mexico	89	100	109	117	127	137	<b>146</b>	<b>159</b>	<b>162</b>	
New York	2,445	2,765	2,967	3,164	3,342	3,548	<b>3,749</b>	<b>3,851</b>	<b>3,887</b>	
North Carolina	862	964	1,041	1,134	1,196	1,266	<b>1,344</b>	<b>1,392</b>	<b>1,444</b>	
North Dakota	55	58	71	76	80	83	<b>85</b>	<b>88</b>	<b>93</b>	
Northern Mariana Isl	0	0	0	0	*	*	*	*	*	
Ohio	1,065	1,185	1,303	1,406	1,498	1,627	<b>1,705</b>	<b>1,757</b>	<b>1,815</b>	
Oklahoma	262	284	313	348	373	382	<b>408</b>	<b>429</b>	<b>432</b>	
Oregon	375	407	453	490	531	554	<b>517</b>	<b>531</b>	<b>559</b>	
Pennsylvania	1,075	1,164	1,256	1,271	1,399	1,492	<b>1,800</b>	<b>1,807</b>	<b>1,891</b>	
Puerto Rico	*	*	*	*	*	*	*	*	*	
Rhode Island	*	*	*	*	*	*	*	*	*	
South Carolina	326	368	418	459	496	517	<b>555</b>	<b>583</b>	<b>602</b>	
South Dakota	89	93	100	101	111	115	<b>122</b>	<b>122</b>	<b>127</b>	
Tennessee	460	506	602	663	703	715	<b>718</b>	<b>755</b>	<b>770</b>	
Texas	1,618	1,692	1,944	2,082	2,183	2,214	<b>1,971</b>	<b>2,286</b>	<b>2,407</b>	
Utah	*	*	*	*	*	212	*	<b>244</b>	<b>263</b>	
Vermont	*	*	*	*	*	*	<b>71</b>	<b>79</b>	<b>86</b>	
Virgin Islands	0	0	0	0	0	0	<b>0</b>	<b>0</b>	<b>0</b>	
Virginia	817	893	877	906	921	941	<b>1,096</b>	<b>1,112</b>	<b>1,123</b>	
Washington	660	726	806	862	909	944	<b>998</b>	<b>1,110</b>	<b>1,140</b>	
West Virginia	128	145	145	156	159	167	<b>205</b>	<b>215</b>	<b>229</b>	
Wisconsin	497	543	592	637	676	711	<b>759</b>	<b>779</b>	<b>802</b>	
Wyoming	*	*	*	*	*	*	<b>64</b>	<b>70</b>	<b>74</b>	
<b>Total</b>	<b>26,558</b>	<b>29,173</b>	<b>31,982</b>	<b>34,404</b>	<b>36,507</b>	<b>38,190</b>	<b>40,273</b>	<b>41,722</b>	<b>43,128</b>	

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Note: Some December 2008 and June 2009 data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

**Table 23**  
**Providers of Connections by Technology by State as of December 31, 2009**  
(Connections over 200 kbps in at least one direction)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Power Line and Other</i>	<i>Total</i>
Alabama	27	10	21	20	18	*	13	5	*	76
Alaska	12	4	5	4	4	*	7	5	0	20
American Samoa	*	*	0	0	0	0	*	0	0	*
Arizona	22	7	23	10	21	*	15	6	*	69
Arkansas	20	6	12	14	8	*	8	5	0	52
California	31	17	39	19	26	*	28	7	0	105
Colorado	35	13	33	15	22	*	25	10	*	88
Connecticut	8	9	22	6	13	*	*	4	0	38
Delaware	5	6	19	*	6	*	0	5	0	29
District of Columbia	11	8	24	*	11	*	*	5	0	38
Florida	30	20	54	18	36	*	17	6	0	102
Georgia	36	15	34	33	36	*	8	7	0	105
Guam	*	*	*	*	0	0	0	*	0	4
Hawaii	*	4	5	*	7	*	*	6	0	18
Idaho	26	8	17	11	16	*	14	7	0	56
Illinois	57	23	42	20	20	*	50	10	0	139
Indiana	35	13	28	14	31	*	36	6	*	98
Iowa	125	39	28	40	56	*	64	9	0	200
Kansas	40	15	20	27	31	*	29	9	0	92
Kentucky	25	10	22	23	18	*	16	9	0	84
Louisiana	19	8	21	13	14	*	7	5	0	56
Maine	13	11	12	6	10	*	4	5	0	32
Maryland	12	10	28	12	13	*	8	7	0	59
Massachusetts	12	10	27	8	13	*	6	4	0	50
Michigan	41	21	37	15	22	*	24	9	*	98
Minnesota	56	23	24	18	40	*	28	6	0	104
Mississippi	20	7	18	14	8	*	4	6	0	54
Missouri	38	15	22	22	23	*	32	5	*	98
Montana	24	11	15	4	11	*	13	*	0	45
Nebraska	33	8	13	19	20	*	24	5	0	69

**Table 23 - Continued**  
**Providers of Connections by Technology by State as of December 31, 2009**  
(Connections over 200 kbps in at least one direction)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Power Line and Other</i>	<i>Total</i>
Nevada	17	11	20	5	13	*	7	6	0	48
New Hampshire	13	9	16	6	10	*	*	5	0	37
New Jersey	17	14	41	5	17	*	*	5	0	58
New Mexico	21	8	15	7	11	*	13	9	0	49
New York	42	19	47	17	28	*	14	6	0	102
North Carolina	26	11	27	20	23	*	8	9	0	76
North Dakota	27	9	12	7	16	*	15	*	0	43
Northern Mariana Isl	*	0	*	*	*	0	*	*	0	*
Ohio	39	21	34	24	30	*	22	8	*	104
Oklahoma	40	10	23	14	16	*	13	11	0	80
Oregon	42	14	28	14	26	*	12	6	0	81
Pennsylvania	34	13	35	23	24	*	12	7	0	85
Puerto Rico	*	*	7	*	*	*	*	*	0	14
Rhode Island	6	6	12	*	6	*	*	4	0	23
South Carolina	23	7	21	16	15	*	5	7	0	51
South Dakota	28	8	14	8	20	*	19	*	0	54
Tennessee	26	13	28	15	18	*	12	8	0	80
Texas	67	27	50	30	42	*	52	9	0	160
Utah	16	10	17	6	15	*	12	7	0	50
Vermont	10	5	14	4	6	*	*	4	0	31
Virgin Islands	*	*	*	0	0	*	*	*	0	7
Virginia	27	15	33	16	23	*	12	8	*	79
Washington	30	11	28	16	26	*	19	7	*	77
West Virginia	10	4	14	10	9	*	6	6	0	38
Wisconsin	46	18	23	15	24	*	23	9	*	92
Wyoming	11	7	8	4	5	*	9	6	0	34
<b>Total</b>	<b>861</b>	<b>260</b>	<b>274</b>	<b>342</b>	<b>483</b>	<b>4</b>	<b>603</b>	<b>51</b>	<b>6</b>	<b>1,519</b>

\* Indicates one to three providers.  
Source: FCC Form 477, Part I.

**Table 24**  
**Percentage of Residential End-User Premises with Access to Services**  
**over 200 kbps in at Least One Direction by State**

<i>State</i>	<i>xDSL Availability Where ILECs Offer Local Telephone Service</i>	<i>Cable Modem Availability Where Cable Systems Offer Cable TV Service</i>
Alabama	80	92
Alaska	78	*
American Samoa	*	0
Arizona	87	99
Arkansas	80	85
California	90	99
Colorado	90	97
Connecticut	*	100
Delaware	*	*
District of Columbia	*	*
Florida	91	98
Georgia	94	92
Guam	*	*
Hawaii	*	*
Idaho	82	98
Illinois	87	97
Indiana	82	92
Iowa	88	93
Kansas	86	95
Kentucky	85	93
Louisiana	85	94
Maine	77	96
Maryland	75	95
Massachusetts	*	100
Michigan	75	96
Minnesota	90	97
Mississippi	78	93
Missouri	82	95
Montana	81	84
Nebraska	88	96
Nevada	90	*
New Hampshire	77	98
New Jersey	86	100
New Mexico	89	89
New York	79	99
North Carolina	90	94
North Dakota	89	92
Northern Mariana Isl	*	*
Ohio	86	95
Oklahoma	82	93
Oregon	84	97
Pennsylvania	87	96
Puerto Rico	*	*
Rhode Island	*	*
South Carolina	86	95
South Dakota	84	84
Tennessee	85	98
Texas	82	97
Utah	92	90
Vermont	82	71
Virgin Islands	*	0
Virginia	68	98
Washington	84	97
West Virginia	67	90
Wisconsin	83	97
Wyoming	81	84
Total	85	97

\* = Data withheld to maintain firm confidentiality.

Note: This table summarizes responses to Form 477 questions about service availability, as opposed to subscribership. xDSL includes both asymmetric and symmetric DSL. Each state-specific estimate is a weighted average of the availability percentages that ILECs or cable system operators report for the areas they serve. Reported xDSL availability is weighted by ILEC end-user switched access lines and VoIP lines. Reported cable modem availability is weighted by cable TV subscribers. The weighted averages include ILECs or cable system operators that report no availability. Figures are presented to the nearest percent.

Source: FCC Form 477, Parts I and II; Warren Communications News, Inc., Television & Cable Factbook: Online (Cable General Information, February 2010).

## Detailed Summary Statistics: Counties and Census Tracts

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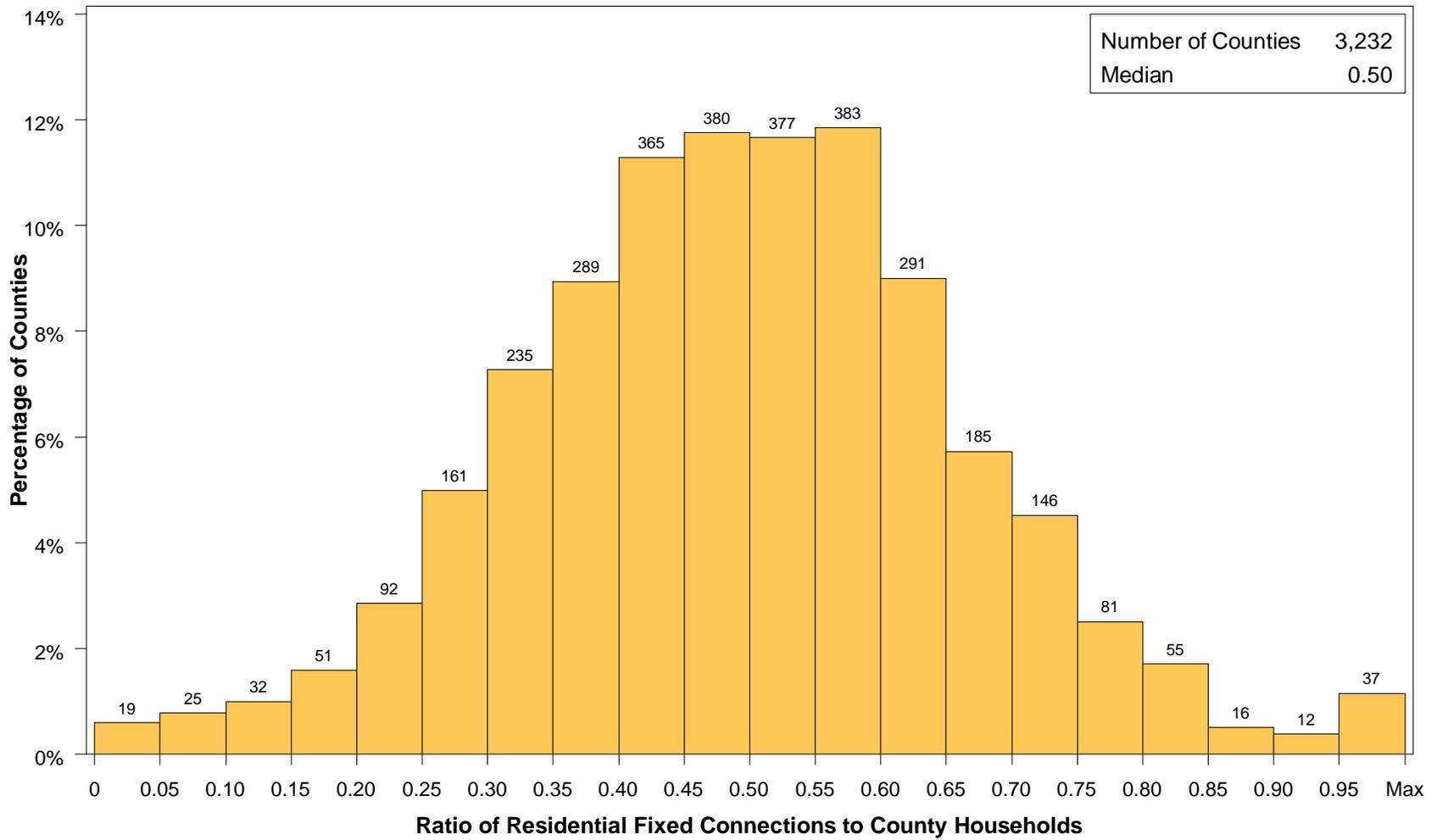
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**Chart 15**  
**Distribution of Counties by Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to County Households as of December 31, 2009**



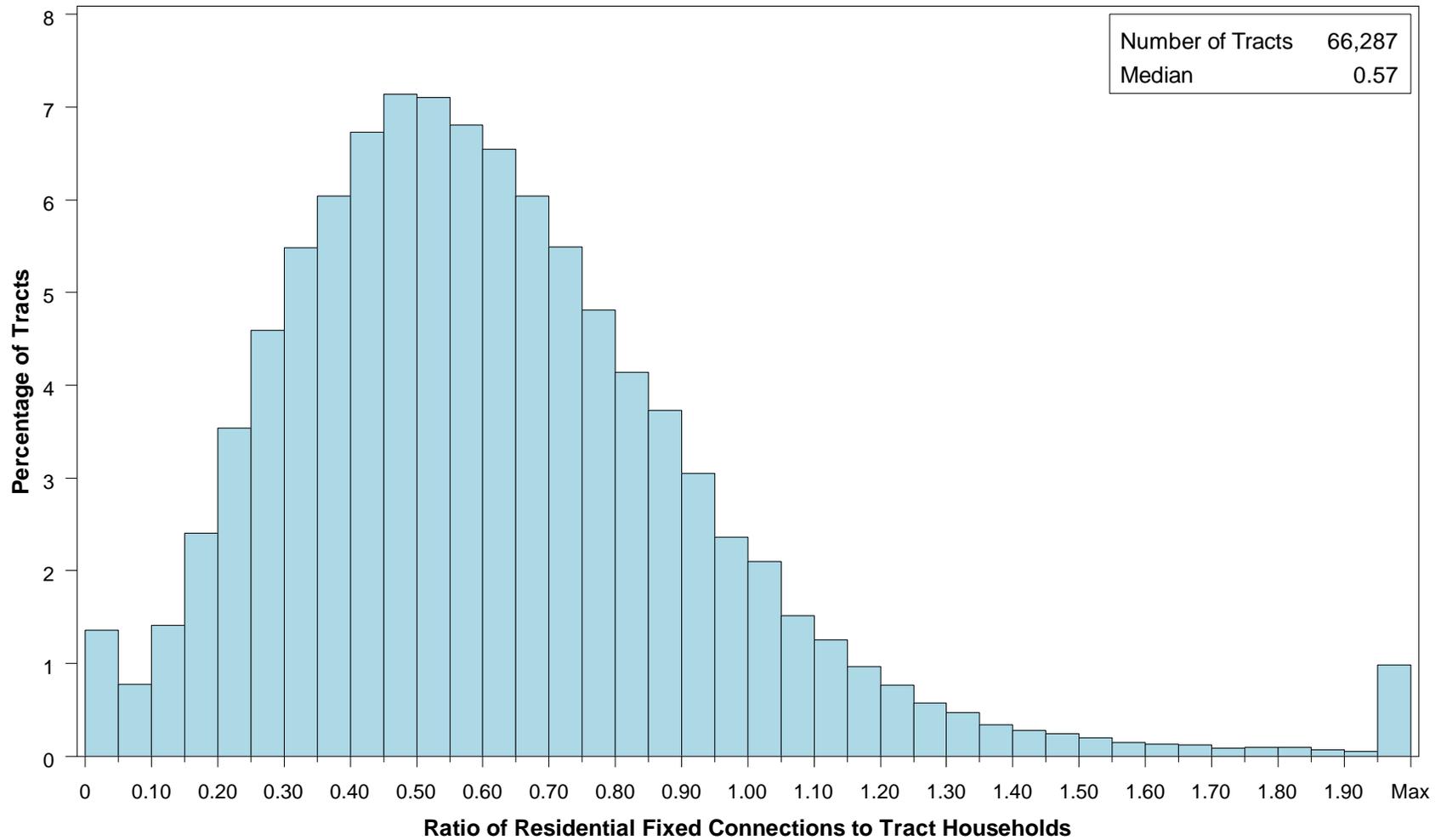
Note: Ratios over 1 were set to 1. See Technical Notes at the end of the report.  
 Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates; and Census 2000.

**Table 25**  
**Distribution of Counties by Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to County Households by Technology as of December 31, 2009**

<i>Technology</i>	<i>Ratio of Residential Fixed Connections to County Households</i>										
	<i>Zero</i>	<i>Greater than 0 and no more than 5%</i>	<i>Greater than 5 and no more than 10%</i>	<i>Greater than 10 and no more than 20%</i>	<i>Greater than 20 and no more than 30%</i>	<i>Greater than 30 and no more than 40%</i>	<i>Greater than 40 and no more than 50%</i>	<i>Greater than 50 and no more than 60%</i>	<i>Greater than 60 and no more than 80%</i>	<i>Greater than 80 and no more than 100%</i>	<i>100% or more</i>
aDSL	1.1	2.3	6.1	28.9	31.0	19.8	7.0	2.3	0.7	0.3	0.3
sDSL	79.2	19.3	0.7	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Other Wireline	92.6	7.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	12.7	12.2	11.5	20.0	18.3	12.7	8.0	3.5	1.0	0.1	0.0
FTTP	67.6	24.8	2.8	2.4	1.3	0.7	0.2	0.1	0.0	0.0	0.0
Satellite	0.9	89.0	8.7	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Fixed Wireless	51.4	39.6	5.4	2.6	0.7	0.1	0.1	0.0	0.0	0.0	0.0
Power Line	99.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All Other	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	0.5	0.8	2.6	7.8	16.2	23.1	23.5	21.8	2.7	1.0

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.  
Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates; and Census 2000.

**Chart 16**  
**Distribution of Census Tracts by Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Tract Households as of December 31, 2009**



Note: Ratios over 2 were set to 2. See Technical Notes at the end of the report.  
 Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates; and Census 2000.

**Table 26**  
**Distribution of Census Tracts by Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Tract Households by Technology as of December 31, 2009**

<i>Technology</i>	<i>Ratio of Residential Fixed Connections to Tract Households</i>										
	<i>Zero</i>	<i>Greater than 0 and no more than 5%</i>	<i>Greater than 5 and no more than 10%</i>	<i>Greater than 10 and no more than 20%</i>	<i>Greater than 20 and no more than 30%</i>	<i>Greater than 30 and no more than 40%</i>	<i>Greater than 40 and no more than 50%</i>	<i>Greater than 50 and no more than 60%</i>	<i>Greater than 60 and no more than 80%</i>	<i>Greater than 80 and no more than 100%</i>	<i>100% or more</i>
aDSL	4.5	10.1	10.6	26.1	20.8	13.2	7.0	3.5	2.5	0.8	0.9
sDSL	93.6	6.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Other Wireline	98.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	6.0	4.6	4.9	14.5	17.4	16.4	14.0	9.5	8.6	2.4	1.7
FTTP	81.9	7.8	1.7	2.6	2.0	1.5	1.0	0.7	0.5	0.1	0.1
Satellite	45.6	50.0	3.4	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Fixed Wireless	86.4	10.9	1.4	0.9	0.3	0.1	0.0	0.0	0.0	0.0	0.0
Power Line	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All Other	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.8</b>	<b>0.6</b>	<b>0.8</b>	<b>3.8</b>	<b>8.1</b>	<b>11.5</b>	<b>14.0</b>	<b>13.8</b>	<b>22.9</b>	<b>13.3</b>	<b>10.4</b>

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.  
Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates; and Census 2000.

**Table 27**  
**Percentage of Census Tracts with Residential Fixed Connections by Technology as of December 31, 2009**  
 (Connections over 200 kbps in at least one direction)

<i>Technology</i>	<i>Number of Providers</i>							
	<i>Zero</i>	<i>One</i>	<i>Two</i>	<i>Three</i>	<i>Four</i>	<i>Five</i>	<i>Six</i>	<i>Seven or More</i>
aDSL	4.5	44.1	36.8	12.0	2.3	0.3	0.0	0.0
sDSL	93.6	6.0	0.3	0.0	0.0	0.0	0.0	0.0
Other Wireline	98.9	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	6.0	79.5	13.7	0.7	0.0	0.0	0.0	0.0
FTTP	81.9	17.7	0.4	0.0	0.0	0.0	0.0	0.0
Satellite	45.6	23.0	28.0	3.5	0.0	0.0	0.0	0.0
Fixed Wireless	86.4	10.8	2.2	0.5	0.1	0.0	0.0	0.0
Power Line	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0
aDSL and/or Cable Modem and/or FTTP	1.2	5.8	36.9	35.7	15.7	3.9	0.7	0.1
Any Technology	0.8	2.1	16.0	26.2	26.4	16.7	7.6	4.3

Note: Figures may not sum to totals due to rounding.  
 Sources: FCC Form 477, Part VI and Census 2000.

**Table 28**  
**Distribution of Counties by Ratio of Residential Fixed Connections to County Households by State as of December 31, 2009**  
**(Connections over 200 kbps in at least one direction)**

State	Counties	Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to County Households										
		Zero	Greater than 0 and no more than 5%	Greater than 5 and no more than 10%	Greater than 10 and no more than 20%	Greater than 20 and no more than 30%	Greater than 30 and no more than 40%	Greater than 40 and no more than 50%	Greater than 50 and no more than 60%	Greater than 60 and no more than 80%	Greater than 80 and no more than 100%	100% or more
Alabama	67	0	0	0	2	12	19	19	10	5	0	0
Alaska	27	0	0	0	4	3	3	3	3	11	0	0
American Samoa	5	3	0	1	1	0	0	0	0	0	0	0
Arizona	15	0	0	0	0	0	1	4	3	6	1	0
Arkansas	75	0	0	0	0	10	38	17	9	1	0	0
California	58	0	0	0	1	0	2	10	13	30	2	0
Colorado	64	0	0	0	0	1	3	16	16	18	6	4
Connecticut	8	0	0	0	0	0	0	0	0	6	2	0
Delaware	3	0	0	0	0	0	0	0	0	3	0	0
District of Columbia	1	0	0	0	0	0	0	0	0	1	0	0
Florida	67	0	0	0	0	3	9	11	5	34	5	0
Georgia	159	0	11	11	11	16	24	21	22	20	5	18
Guam	1	0	0	0	0	0	0	0	0	1	0	0
Hawaii	5	0	1	0	0	0	0	0	0	2	2	0
Idaho	44	0	0	0	3	1	8	12	12	7	1	0
Illinois	102	0	0	2	2	6	9	28	29	22	3	1
Indiana	92	0	0	0	1	4	15	37	23	12	0	0
Iowa	99	0	0	0	0	0	2	29	48	20	0	0
Kansas	105	0	0	0	0	0	6	27	43	27	2	0
Kentucky	120	0	0	0	3	12	27	37	28	13	0	0
Louisiana	64	0	0	0	0	9	14	13	17	11	0	0
Maine	16	0	0	0	0	1	1	0	6	8	0	0
Maryland	24	0	0	0	0	0	1	4	2	13	4	0
Massachusetts	14	0	0	0	0	0	0	0	0	9	2	3
Michigan	83	0	0	0	5	3	15	20	25	14	1	0
Minnesota	87	0	0	0	1	1	7	24	32	21	1	0
Mississippi	82	0	0	0	5	37	18	10	8	4	0	0
Missouri	115	0	0	1	2	11	29	42	17	13	0	0
Montana	56	0	0	0	1	0	7	21	15	12	0	0
Nebraska	93	0	0	0	0	1	9	32	32	18	1	0

**Table 28 - Continued**  
**Distribution of Counties by Ratio of Residential Fixed Connections to County Households by State as of December 31, 2009**  
**(Connections over 200 kbps in at least one direction)**

State	Counties	Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to County Households										
		Zero	Greater than 0 and no more than 5%	Greater than 5 and no more than 10%	Greater than 10 and no more than 20%	Greater than 20 and no more than 30%	Greater than 30 and no more than 40%	Greater than 40 and no more than 50%	Greater than 50 and no more than 60%	Greater than 60 and no more than 80%	Greater than 80 and no more than 100%	100% or more
Nevada	17	0	0	0	0	1	4	4	3	5	0	0
New Hampshire	10	0	0	0	0	0	0	0	1	7	2	0
New Jersey	21	0	0	0	0	0	0	0	2	9	9	1
New Mexico	33	0	0	0	0	5	6	10	8	3	1	0
New York	62	0	0	0	0	0	0	1	15	38	6	2
North Carolina	100	0	0	0	0	1	14	29	33	18	4	1
North Dakota	53	0	0	0	0	2	4	9	21	17	0	0
Northern Mariana Isl	4	1	0	0	3	0	0	0	0	0	0	0
Ohio	88	0	0	0	0	1	10	20	27	30	0	0
Oklahoma	77	0	0	0	1	12	21	25	11	7	0	0
Oregon	36	0	0	0	0	0	3	9	12	12	0	0
Pennsylvania	67	0	0	0	0	1	3	8	13	32	7	3
Puerto Rico	78	0	0	0	14	19	36	5	4	0	0	0
Rhode Island	5	0	0	0	0	0	0	0	1	1	3	0
South Carolina	46	0	0	0	0	10	7	14	9	5	1	0
South Dakota	66	0	0	0	0	4	11	14	21	15	1	0
Tennessee	95	0	0	1	3	11	32	28	14	6	0	0
Texas	254	0	1	6	13	28	60	67	35	40	4	0
Utah	29	0	0	0	0	1	1	5	13	8	1	0
Vermont	14	0	0	0	0	0	1	4	2	7	0	0
Virgin Islands	3	0	0	0	0	3	0	0	0	0	0	0
Virginia	134	0	1	2	7	17	23	24	24	28	8	0
Washington	39	0	0	0	0	4	3	5	9	17	1	0
West Virginia	55	0	0	1	0	1	15	15	16	7	0	0
Wisconsin	72	0	1	0	0	1	2	9	35	23	1	0
Wyoming	23	0	0	0	0	0	2	4	11	6	0	0
<b>Total</b>	<b>3,232</b>	<b>4</b>	<b>15</b>	<b>25</b>	<b>83</b>	<b>253</b>	<b>525</b>	<b>746</b>	<b>758</b>	<b>703</b>	<b>87</b>	<b>33</b>

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.

Sources: FCC Form 477, Part VI (Connections); Geolytics 2010 Block-Level Estimates (Households for U.S. and District of Columbia); Census 2000 (Households for Puerto Rico, American Samoa, Guam, Northern Mariana Islands and U.S. Virgin Islands).

**Table 29**  
**Distribution of Census Tracts by Ratio of Residential Fixed Connections to Tract Households by State as of December 31, 2009**  
**(Connections over 200 kbps in at least one direction)**

State	Tracts	Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Tract Households										
		Zero	Greater than 0 and no more than 5%	Greater than 5 and no more than 10%	Greater than 10 and no more than 20%	Greater than 20 and no more than 30%	Greater than 30 and no more than 40%	Greater than 40 and no more than 50%	Greater than 50 and no more than 60%	Greater than 60 and no more than 80%	Greater than 80 and no more than 100%	100% or more
Alabama	1,081	1	6	18	95	178	200	177	119	159	69	59
Alaska	158	2	2	4	9	6	12	16	17	48	31	11
American Samoa	21	10	8	0	1	0	1	0	0	0	1	0
Arizona	1,107	16	15	17	61	104	114	146	154	225	112	143
Arkansas	624	1	6	9	40	124	144	110	65	75	33	17
California	7,049	41	15	28	178	335	574	821	940	1,964	1,213	940
Colorado	1,075	17	1	0	16	53	104	150	171	260	165	138
Connecticut	815	3	0	0	4	18	38	61	78	247	277	89
Delaware	197	1	0	2	5	18	20	27	22	27	30	45
District of Columbia	188	7	1	1	2	6	16	22	26	57	28	22
Florida	3,153	10	6	4	55	191	338	457	413	729	445	505
Georgia	1,618	6	65	36	108	192	214	222	179	245	142	209
Guam	56	10	0	0	2	3	3	3	6	12	5	12
Hawaii	286	7	1	0	3	4	6	21	31	112	63	38
Idaho	280	1	2	6	10	24	52	57	53	41	15	19
Illinois	2,964	19	8	14	67	191	349	447	463	788	385	233
Indiana	1,412	3	6	11	56	145	233	254	265	260	112	67
Iowa	793	2	1	0	4	24	77	166	216	235	44	24
Kansas	727	7	1	1	8	33	100	124	150	179	62	62
Kentucky	994	1	6	17	53	93	179	197	163	178	64	43
Louisiana	1,106	7	6	7	47	165	152	185	155	245	96	41
Maine	344	0	1	3	8	11	21	29	76	130	53	12
Maryland	1,216	8	1	6	53	86	87	118	121	286	231	219
Massachusetts	1,361	5	0	0	28	98	99	118	102	294	377	240
Michigan	2,716	14	9	17	131	245	274	366	409	681	385	185
Minnesota	1,300	6	5	8	11	52	123	210	256	383	154	92
Mississippi	605	0	2	11	73	139	126	92	44	76	22	20
Missouri	1,320	9	4	8	63	137	221	245	187	231	134	81
Montana	270	7	3	5	5	17	42	49	53	60	18	11
Nebraska	503	4	0	0	1	23	76	99	105	116	40	39

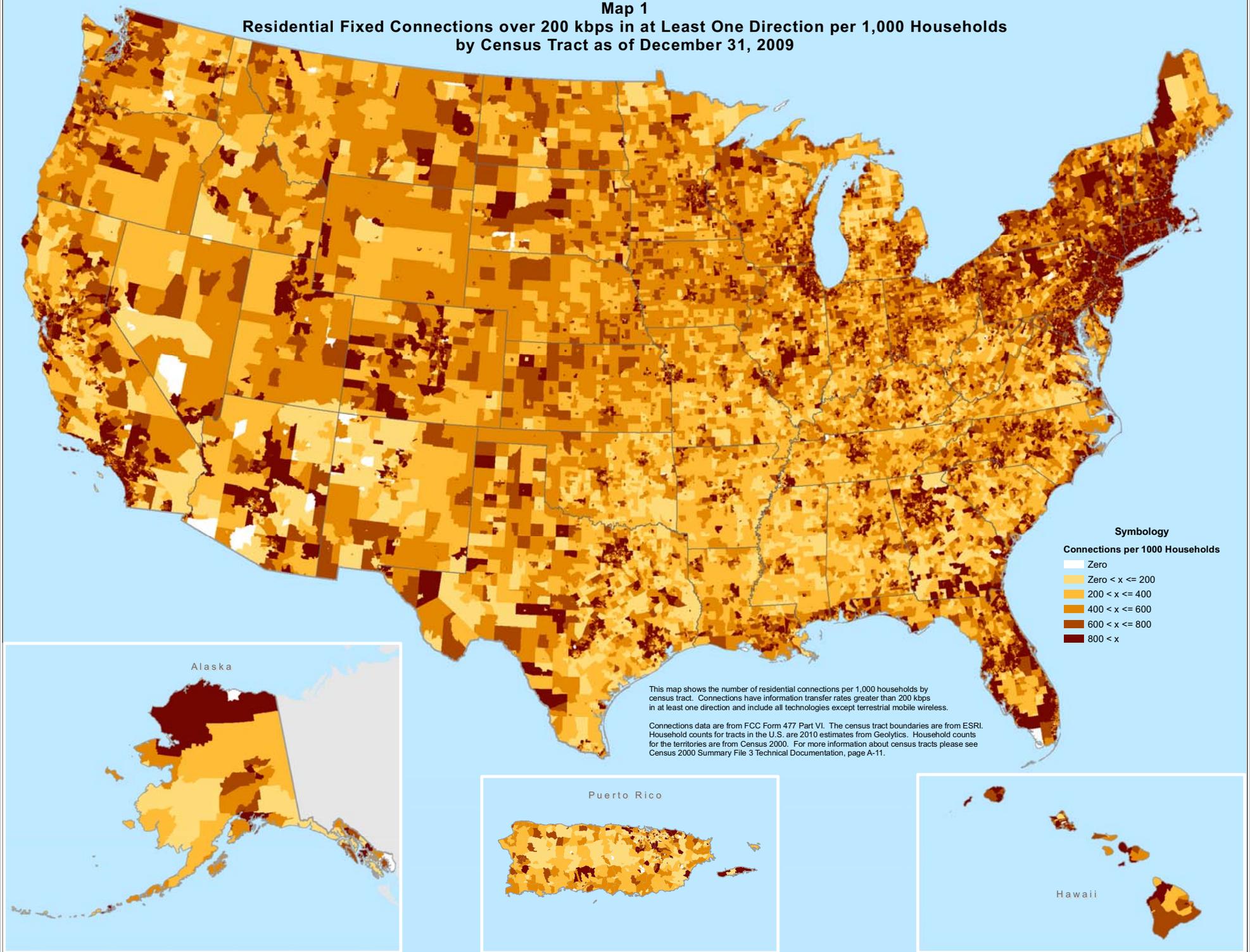
**Table 29 - Continued**  
**Distribution of Census Tracts by Ratio of Residential Fixed Connections to Tract Households by State as of December 31, 2009**  
**(Connections over 200 kbps in at least one direction)**

State	Tracts	Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Tract Households										
		Zero	Greater than 0 and no more than 5%	Greater than 5 and no more than 10%	Greater than 10 and no more than 20%	Greater than 20 and no more than 30%	Greater than 30 and no more than 40%	Greater than 40 and no more than 50%	Greater than 50 and no more than 60%	Greater than 60 and no more than 80%	Greater than 80 and no more than 100%	100% or more
Nevada	487	10	3	15	30	48	73	61	57	90	45	55
New Hampshire	272	0	0	0	2	3	4	13	37	101	73	39
New Jersey	1,944	14	2	6	30	92	135	170	175	419	460	441
New Mexico	456	18	18	15	32	46	64	63	57	76	38	29
New York	4,898	101	6	9	50	219	525	740	673	1,089	721	765
North Carolina	1,555	2	2	5	54	150	221	263	245	302	177	134
North Dakota	227	6	0	1	3	15	18	38	54	64	22	6
Northern Mariana Isl	21	1	0	4	11	5	0	0	0	0	0	0
Ohio	2,934	14	1	9	72	227	327	415	482	833	393	161
Oklahoma	990	4	9	15	71	103	180	176	129	165	87	51
Oregon	755	1	0	2	2	29	78	121	156	234	89	43
Pennsylvania	3,134	35	34	8	147	276	285	300	320	705	555	469
Puerto Rico	823	12	47	61	190	170	118	87	42	40	21	35
Rhode Island	233	0	0	0	7	24	18	24	21	44	51	44
South Carolina	867	4	2	6	66	134	159	118	85	149	72	72
South Dakota	235	16	3	1	7	20	33	36	33	56	23	7
Tennessee	1,261	8	4	19	78	202	226	230	149	193	80	72
Texas	4,388	22	50	65	308	574	678	627	518	756	380	410
Utah	496	6	3	2	8	22	34	75	98	129	66	53
Vermont	179	0	0	0	3	4	14	23	40	58	25	12
Virgin Islands	32	0	5	4	4	4	6	0	4	4	1	0
Virginia	1,530	6	9	20	84	117	139	209	172	361	237	176
Washington	1,318	2	2	5	24	48	115	164	218	406	204	130
West Virginia	466	1	2	10	31	61	63	70	82	90	45	11
Wisconsin	1,320	8	2	2	15	76	124	222	243	425	134	69
Wyoming	127	1	0	1	3	5	7	21	35	40	11	3
<b>Total</b>	<b>66,287</b>	<b>517</b>	<b>385</b>	<b>518</b>	<b>2,529</b>	<b>5,389</b>	<b>7,639</b>	<b>9,255</b>	<b>9,164</b>	<b>15,172</b>	<b>8,816</b>	<b>6,903</b>

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.

Sources: FCC Form 477, Part VI (Connections); Geolytics 2010 Block-Level Estimates (Households for U.S. and District of Columbia); Census 2000 (Households for Puerto Rico, American Samoa, Guam, Northern Mariana Islands and U.S. Virgin Islands).

**Map 1**  
**Residential Fixed Connections over 200 kbps in at Least One Direction per 1,000 Households**  
**by Census Tract as of December 31, 2009**



**Symbology**  
**Connections per 1000 Households**

- Zero
- Zero < x ≤ 200
- 200 < x ≤ 400
- 400 < x ≤ 600
- 600 < x ≤ 800
- 800 < x

This map shows the number of residential connections per 1,000 households by census tract. Connections have information transfer rates greater than 200 kbps in at least one direction and include all technologies except terrestrial mobile wireless.

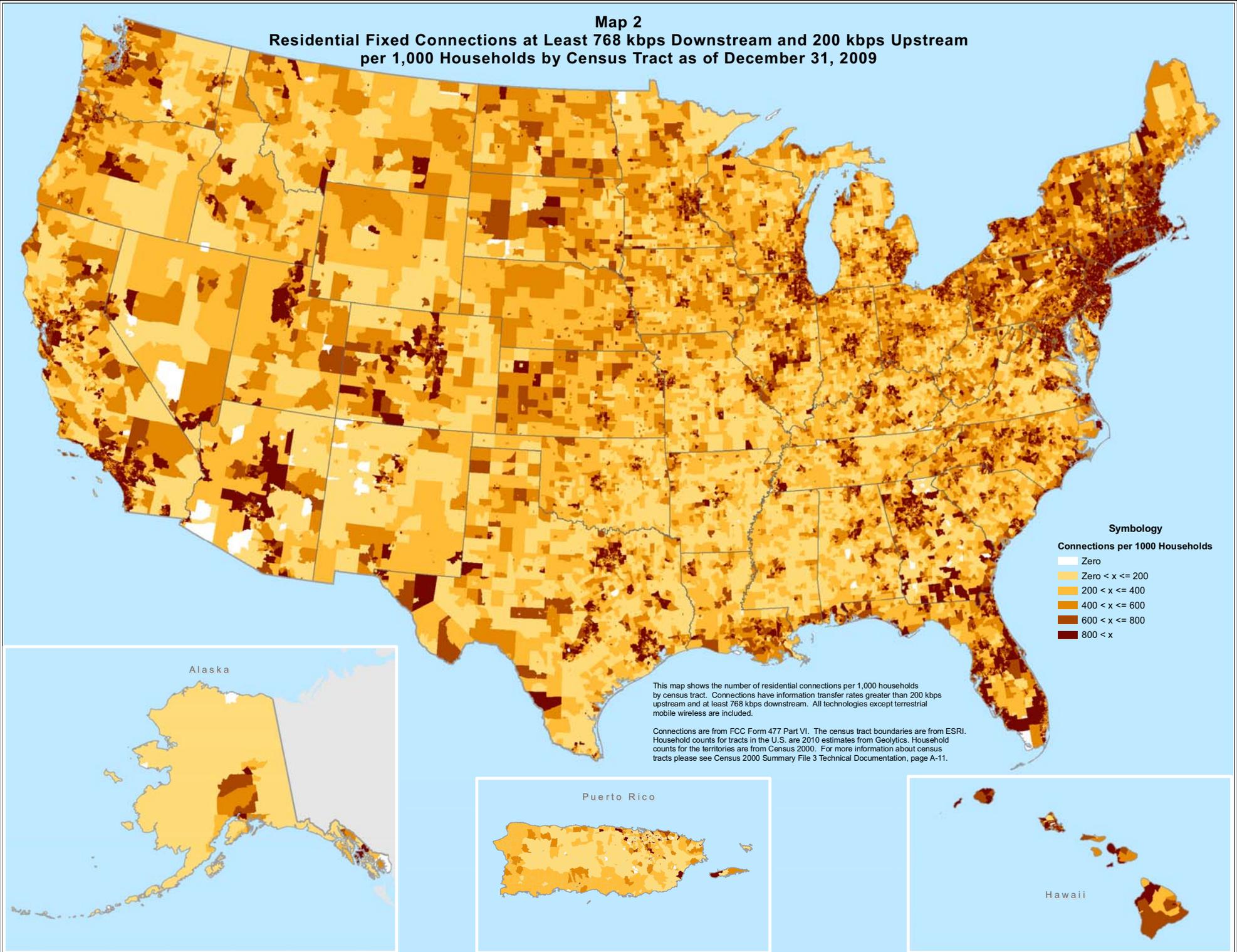
Connections data are from FCC Form 477 Part VI. The census tract boundaries are from ESRI. Household counts for tracts in the U.S. are 2010 estimates from Geolytics. Household counts for the territories are from Census 2000. For more information about census tracts please see Census 2000 Summary File 3 Technical Documentation, page A-11.

Alaska

Puerto Rico

Hawaii

**Map 2**  
**Residential Fixed Connections at Least 768 kbps Downstream and 200 kbps Upstream**  
**per 1,000 Households by Census Tract as of December 31, 2009**



**Symbology**  
**Connections per 1000 Households**

- Zero
- Zero < x <= 200
- 200 < x <= 400
- 400 < x <= 600
- 600 < x <= 800
- 800 < x

This map shows the number of residential connections per 1,000 households by census tract. Connections have information transfer rates greater than 200 kbps upstream and at least 768 kbps downstream. All technologies except terrestrial mobile wireless are included.

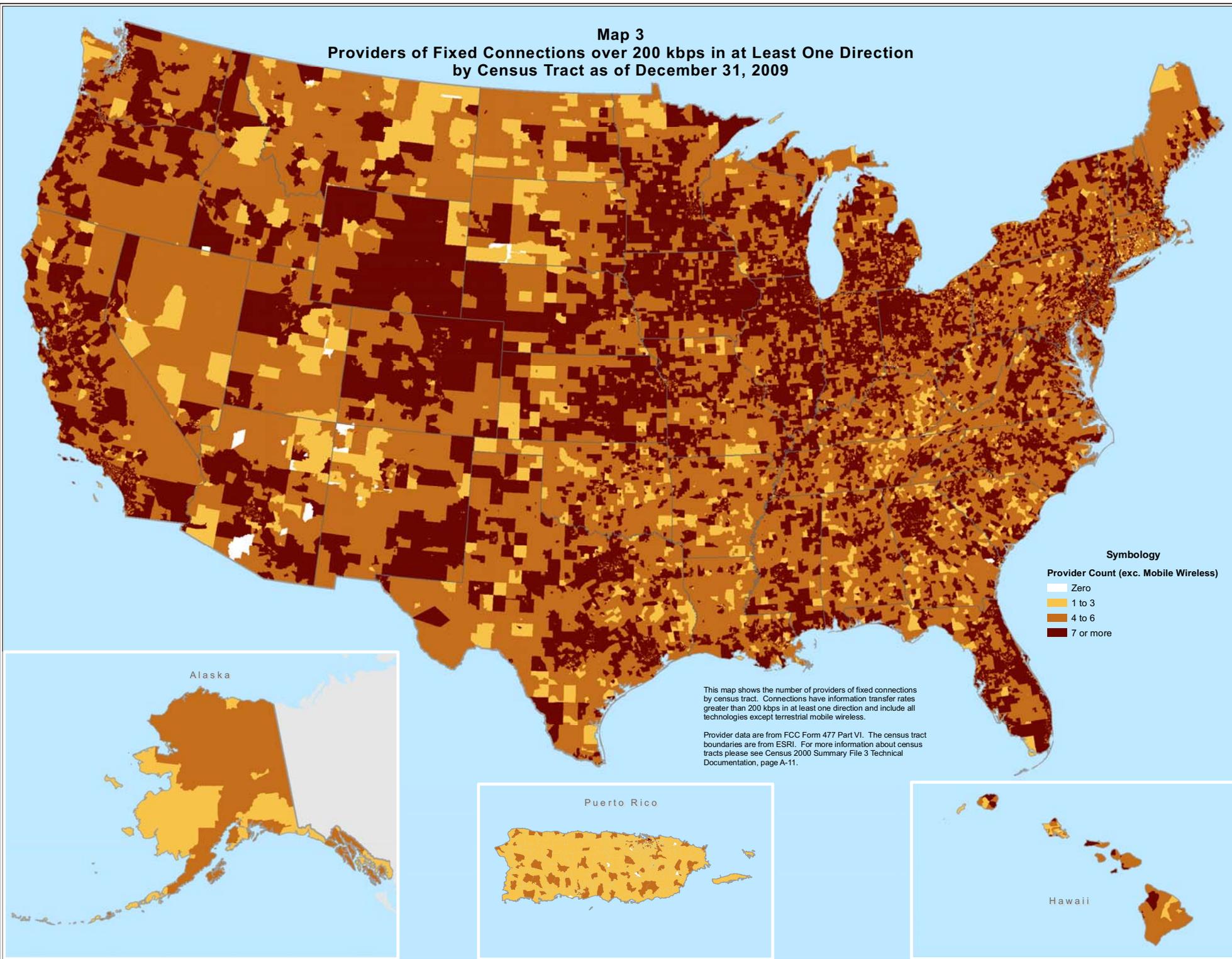
Connections are from FCC Form 477 Part VI. The census tract boundaries are from ESRI. Household counts for tracts in the U.S. are 2010 estimates from Geolytics. Household counts for the territories are from Census 2000. For more information about census tracts please see Census 2000 Summary File 3 Technical Documentation, page A-11.

Alaska

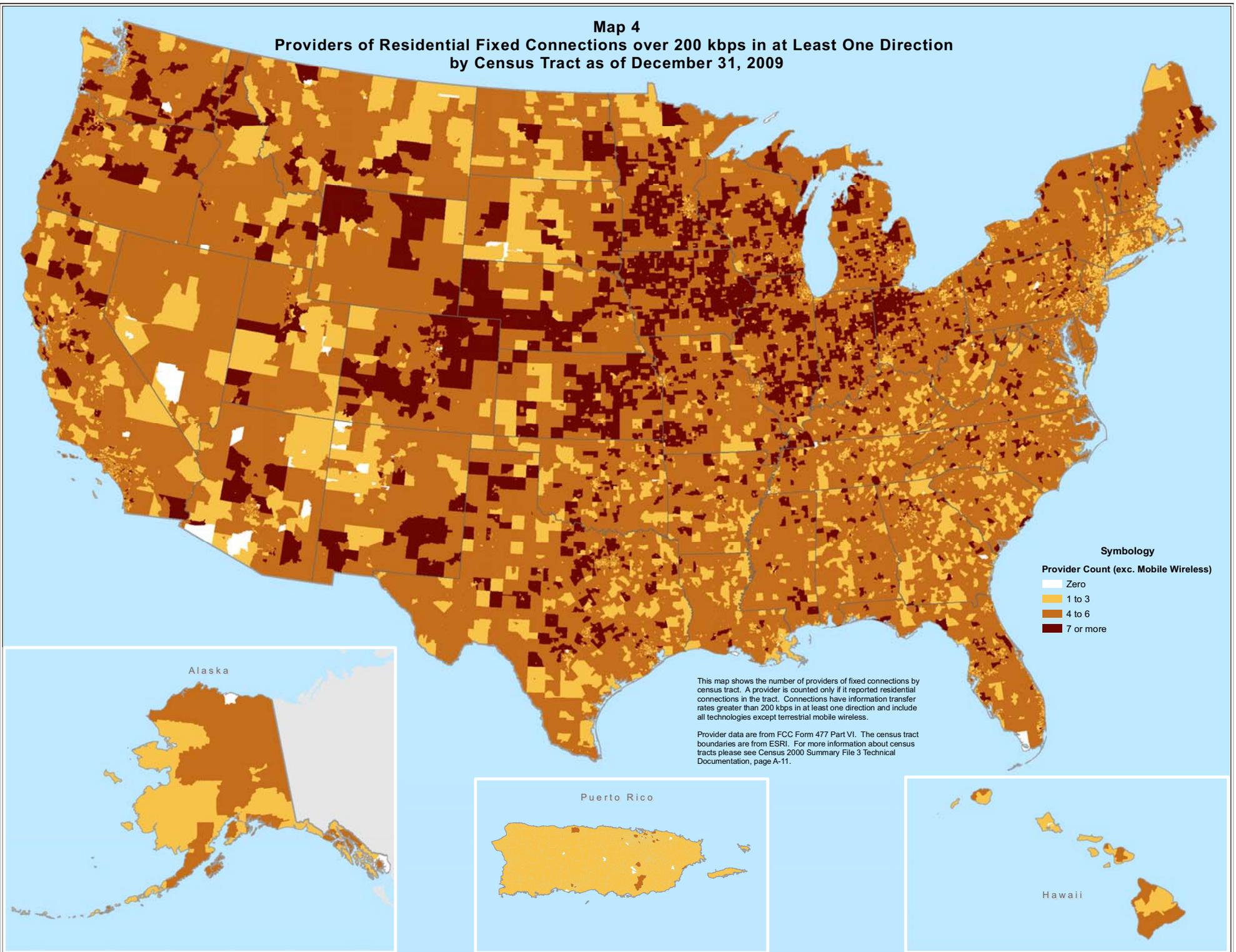
Puerto Rico

Hawaii

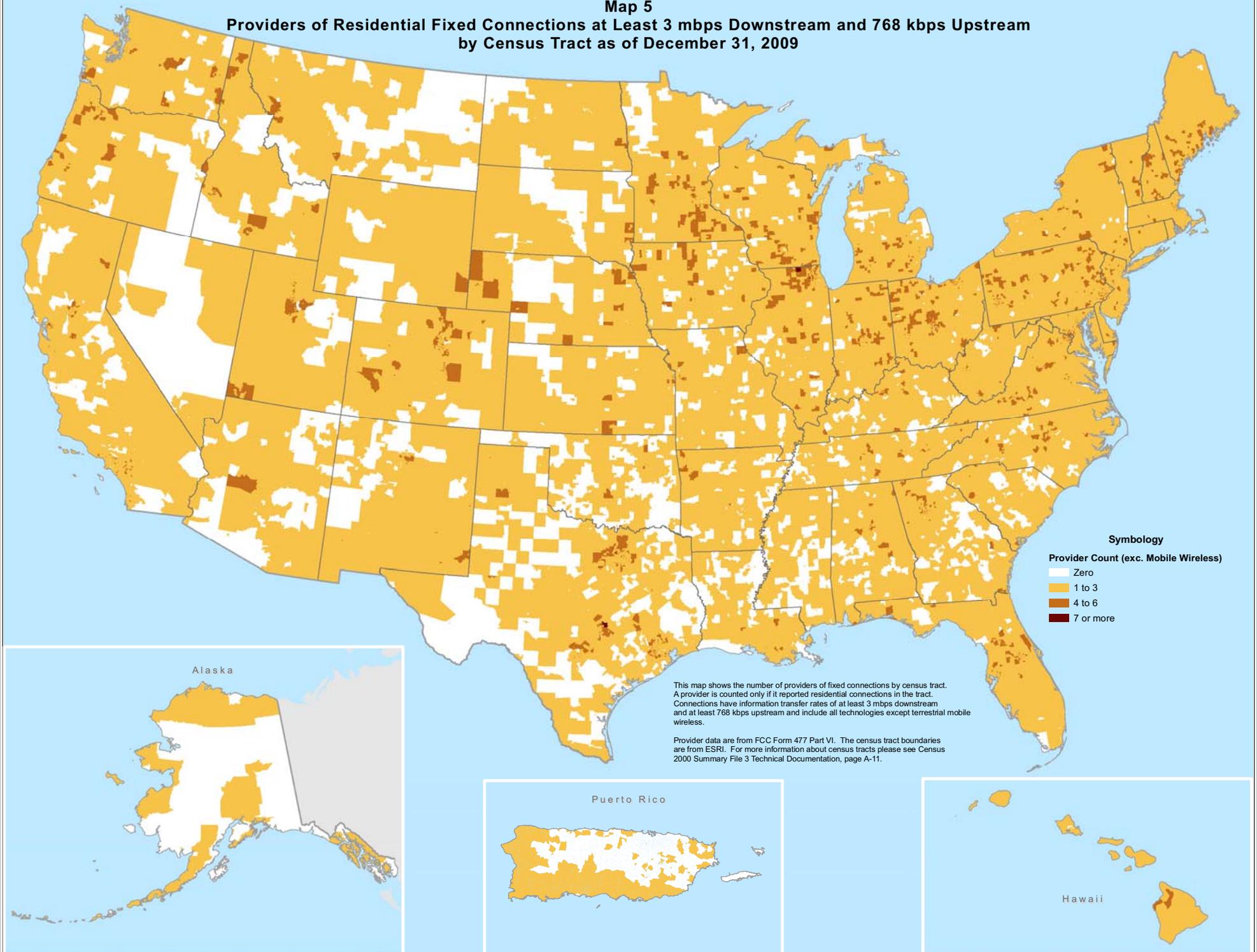
**Map 3**  
**Providers of Fixed Connections over 200 kbps in at Least One Direction**  
**by Census Tract as of December 31, 2009**



**Map 4**  
**Providers of Residential Fixed Connections over 200 kbps in at Least One Direction**  
**by Census Tract as of December 31, 2009**



**Map 5**  
**Providers of Residential Fixed Connections at Least 3 mbps Downstream and 768 kbps Upstream**  
**by Census Tract as of December 31, 2009**



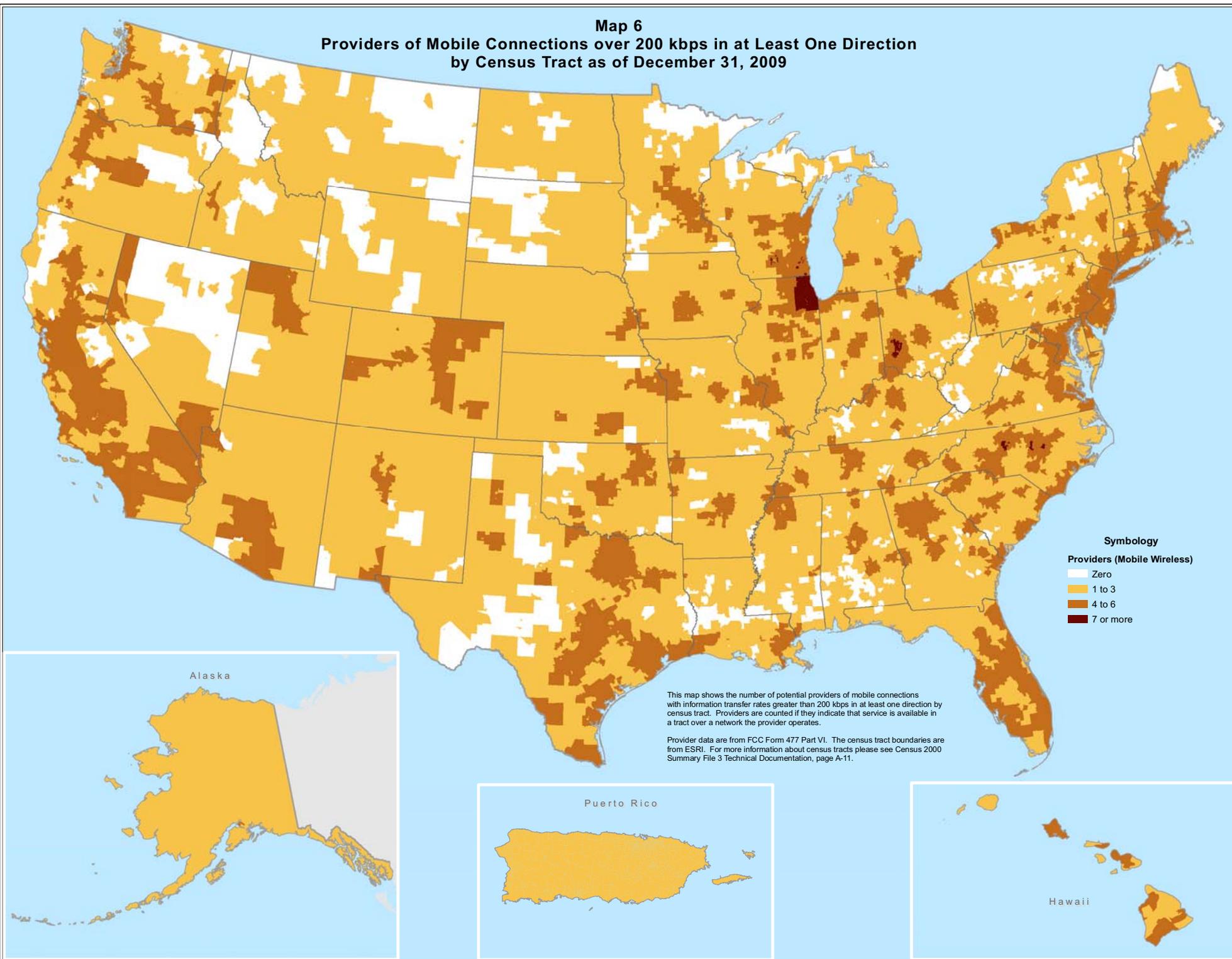
**Symbology**  
**Provider Count (exc. Mobile Wireless)**

- Zero
- 1 to 3
- 4 to 6
- 7 or more

This map shows the number of providers of fixed connections by census tract. A provider is counted only if it reported residential connections in the tract. Connections have information transfer rates of at least 3 mbps downstream and at least 768 kbps upstream and include all technologies except terrestrial mobile wireless.

Provider data are from FCC Form 477 Part VI. The census tract boundaries are from ESRI. For more information about census tracts please see Census 2000 Summary File 3 Technical Documentation, page A-11.

**Map 6**  
**Providers of Mobile Connections over 200 kbps in at Least One Direction**  
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## Detailed Correlation Results: Demographic Measures

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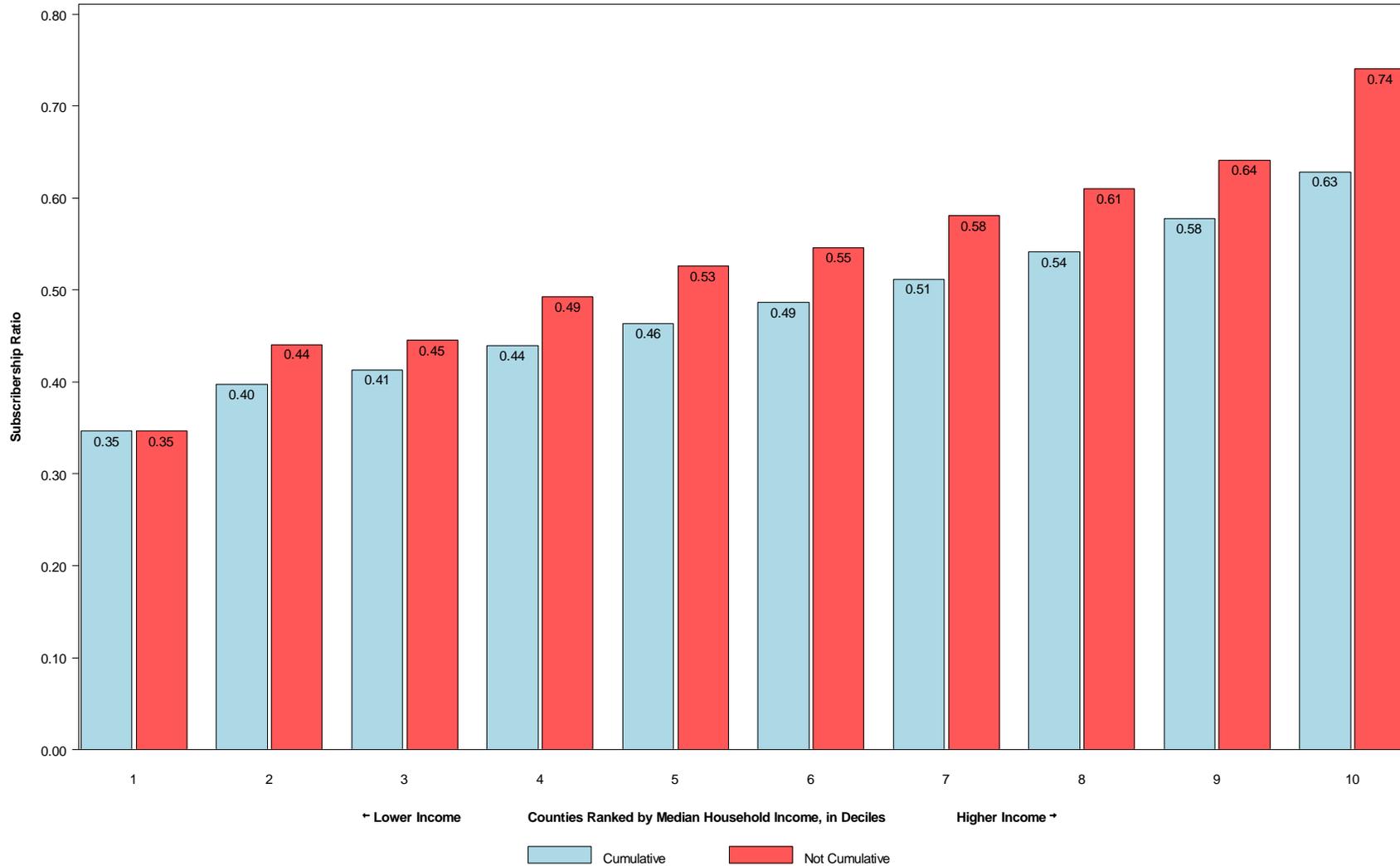
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#### **Income and household density**

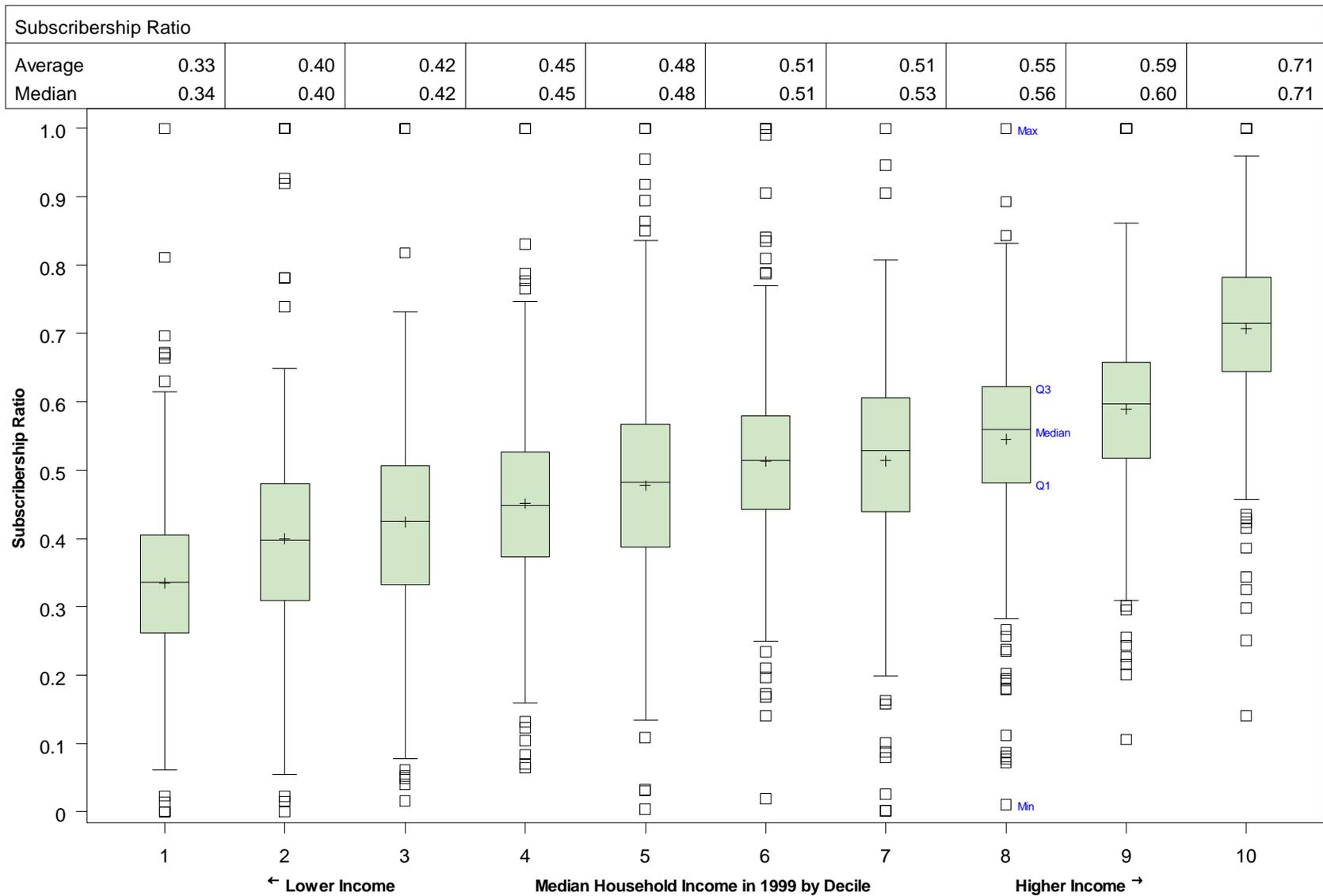
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**Chart 17**  
**Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households**  
**by Income Deciles as of December 31, 2009**  
**(County Data)**



This chart shows cumulative and non-cumulative subscribership ratios by income deciles. Counties were grouped into income deciles based on county median household income in 1999, as reported by the Census Bureau. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across counties in the decile to the sum of households across counties in the decile. The height of the blue, cumulative bar for decile N represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across all counties in decile N and all deciles less than N to the number of households in all the counties in decile N and deciles less than N. Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2010); and Census 2000 (Median household income in 1999).

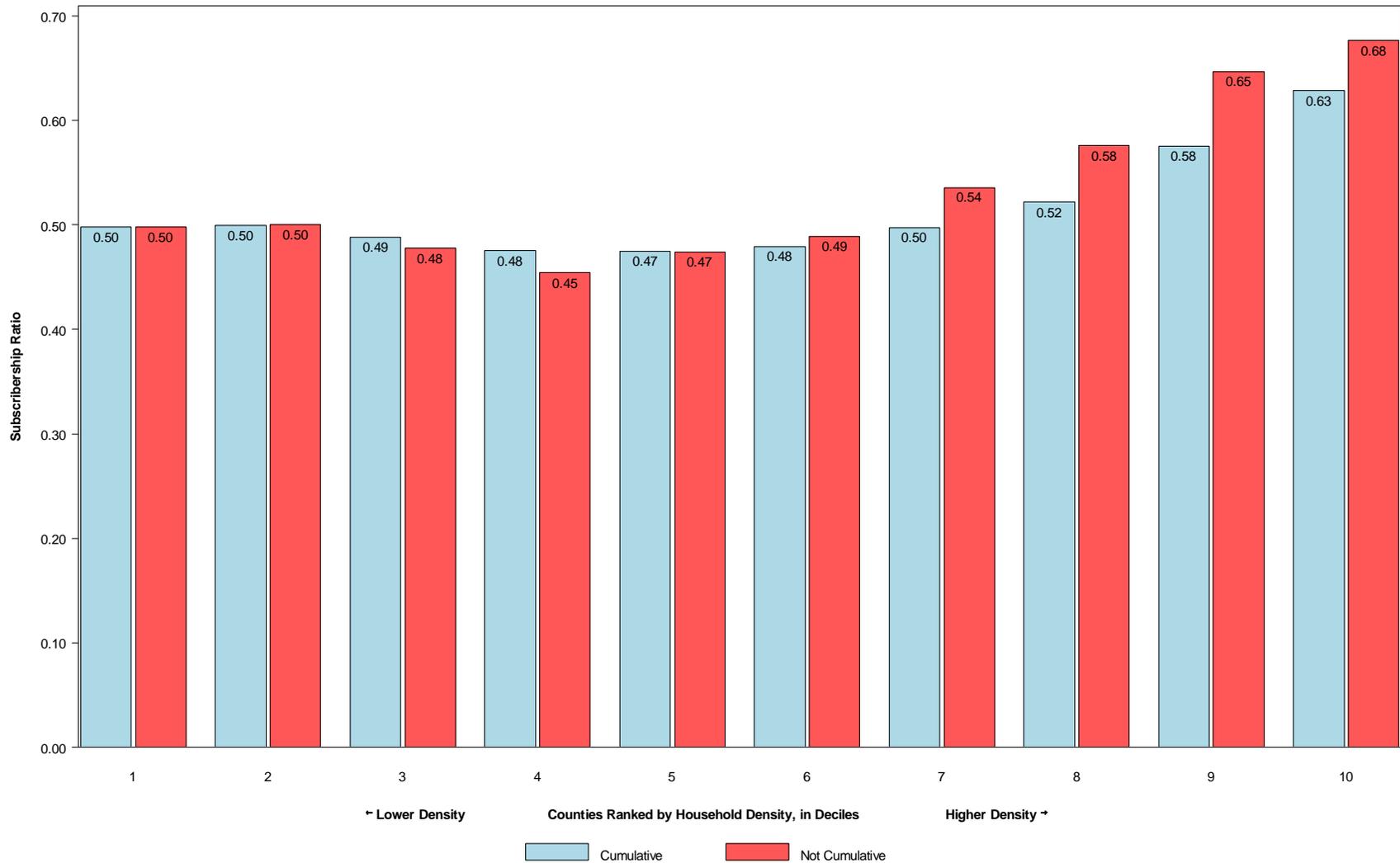
**Chart 18**  
**Subscribership Ratio Distributions by Income Deciles as of December 31, 2009**



Note: Each box plot shows the distribution of residential subscribership to connections over 200 kbps in at least one direction for counties in the income decile. Some of the features are labeled, but note also that + denotes the position of the average residential subscribership ratio taken across all counties in the decile; ⊥ is the minimum observation above Q1-1.5(Q3-Q1); T is the maximum observation below Q3+1.5(Q3-Q1); and □ is any data point beyond Q1-1.5(Q3-Q1) or Q3+1.5(Q3-Q1). Ratios greater than 1 were set to 1.

Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2010); and Census 2000 (Median household income in 1999).

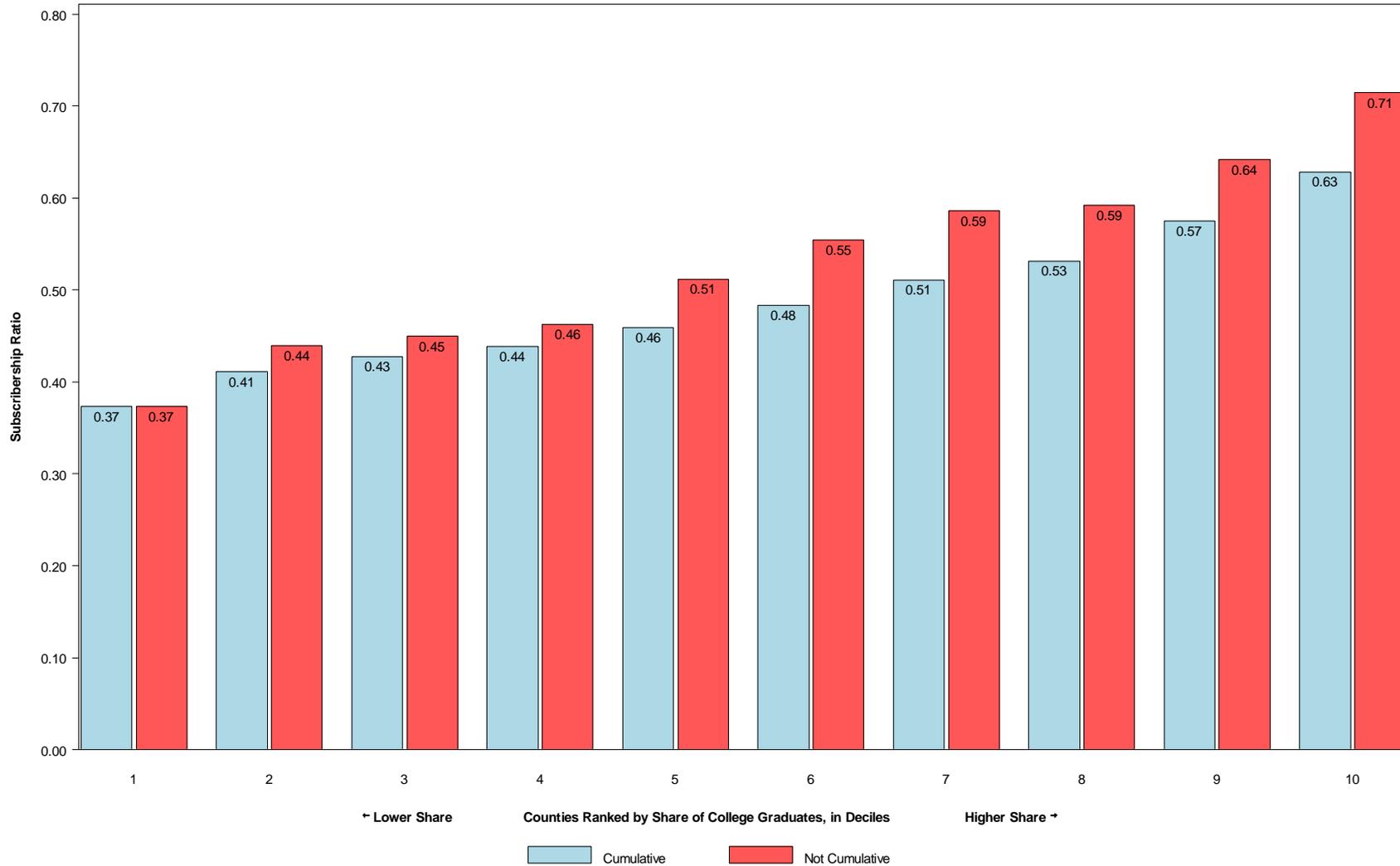
**Chart 19**  
**Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households**  
**by Density Deciles as of December 31, 2009**  
**(County Data)**



This chart shows cumulative and non-cumulative subscribership ratios by density deciles. Counties were grouped into density deciles based on households per square mile, calculated as the ratio of estimated county households in 2010 to county land area from the Census Bureau. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across counties in the decile to the sum of households across counties in the decile. The height of the blue, cumulative bar for decile N represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across all counties in decile N and all deciles less than N to the number of households in all the counties in decile N and deciles less than N. Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2010); and Census 2000 (County land area).



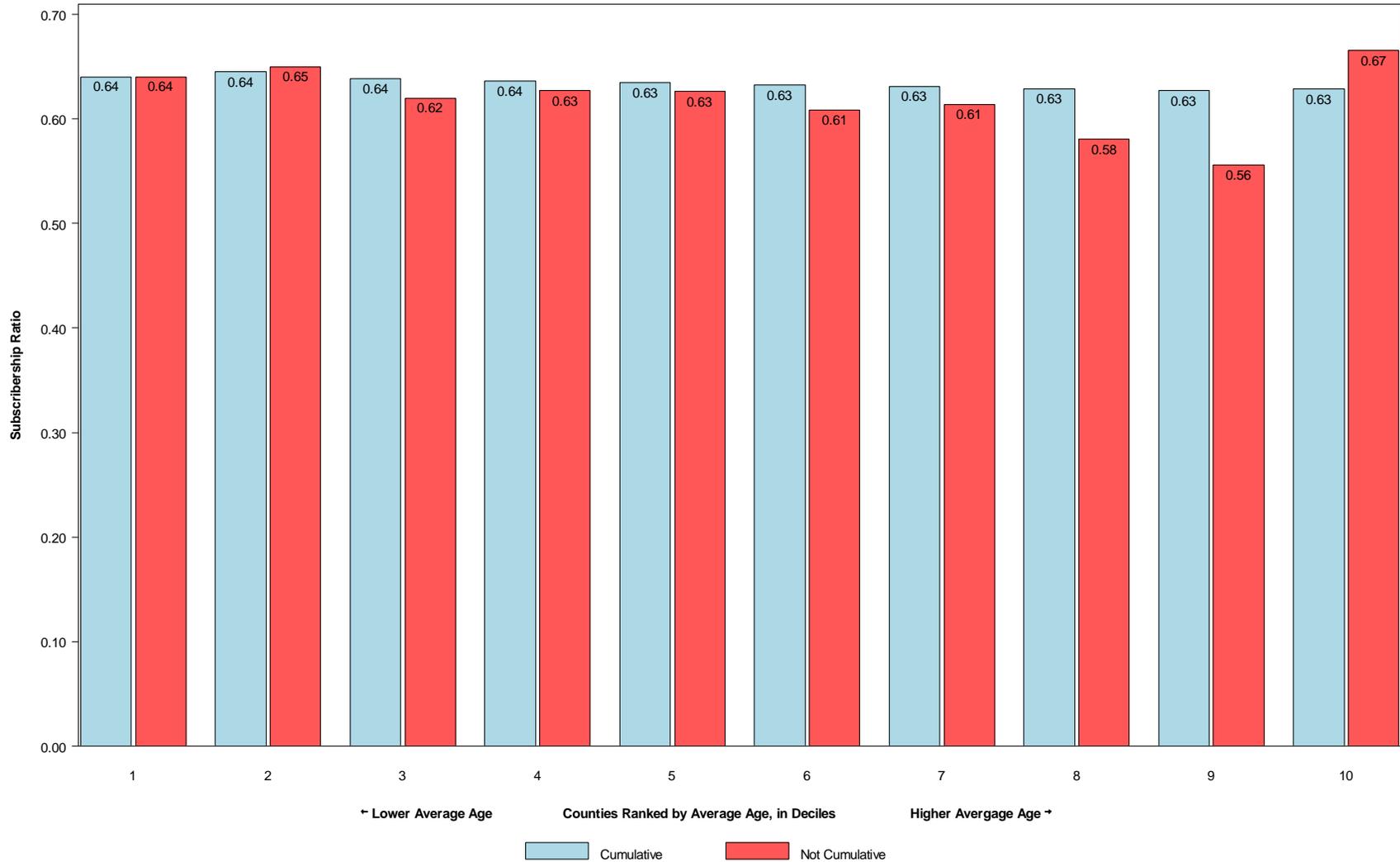
**Chart 21**  
**Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households**  
**by Share of College Graduates in Deciles as of December 31, 2009**  
**(County Data)**



This chart shows cumulative and non-cumulative subscribership ratios by county share of college graduates in deciles. Counties were grouped into deciles based on the share of the county population at least 25 years of age with a college degree or higher educational attainment. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across counties in the decile to the sum of households across counties in the decile. The height of the blue, cumulative bar for decile N represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across all counties in decile N and all deciles less than N, to the number of households in all the counties in decile N and deciles less than N. Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2010); and Census 2000 (County educational attainment).



**Chart 23**  
**Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households**  
**by Average Age in Deciles as of December 31, 2009**  
**(County Data)**

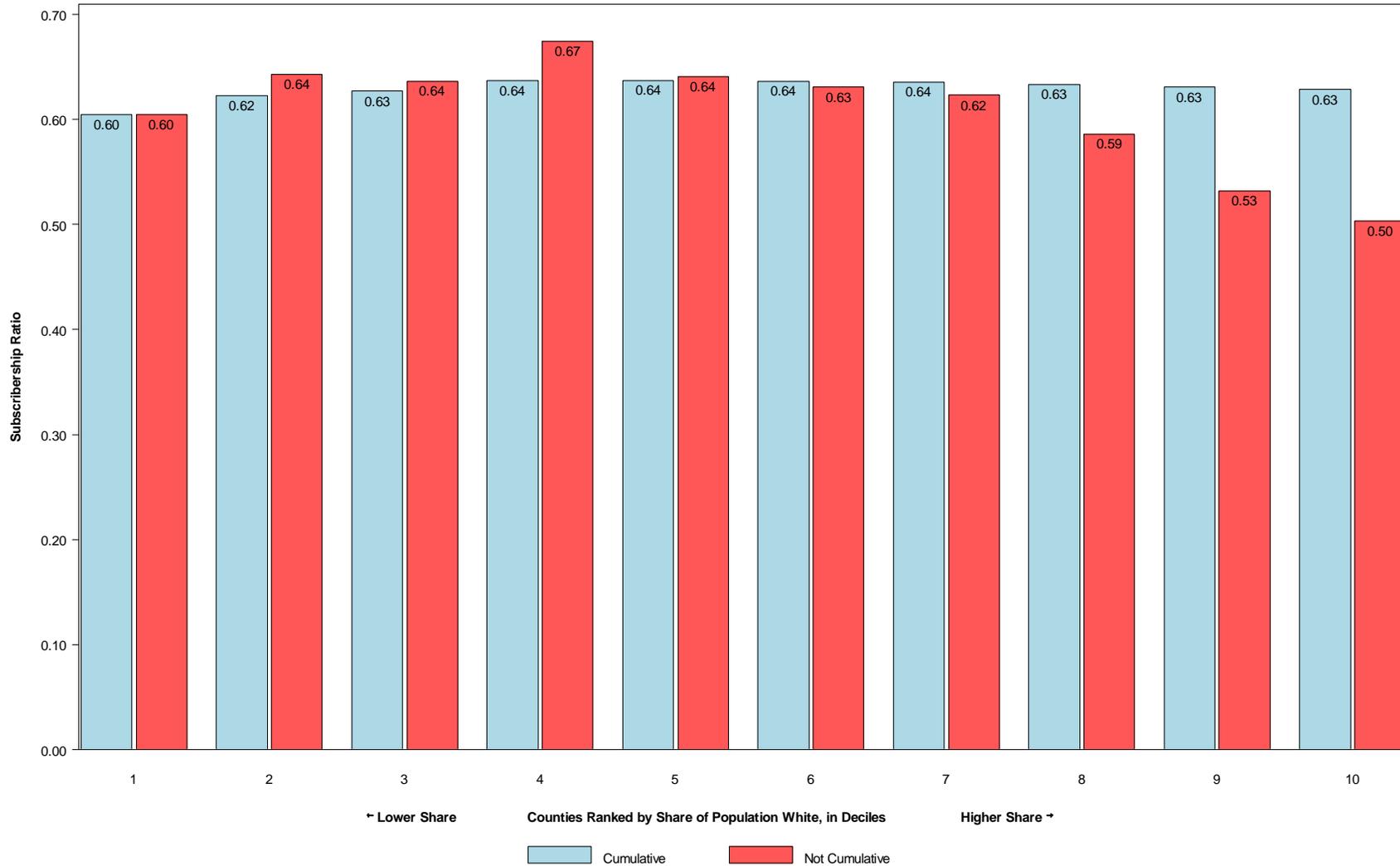


This chart shows cumulative and non-cumulative subscribership ratios by county average age in deciles. Counties were grouped into deciles based on the average age of the county population. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across counties in the decile to the sum of households across counties in the decile. The height of the blue, cumulative bar for decile N represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across all counties in decile N and all deciles less than N, to the number of households in all the counties in decile N and deciles less than N.

Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2010); and Census 2000 (County average age).



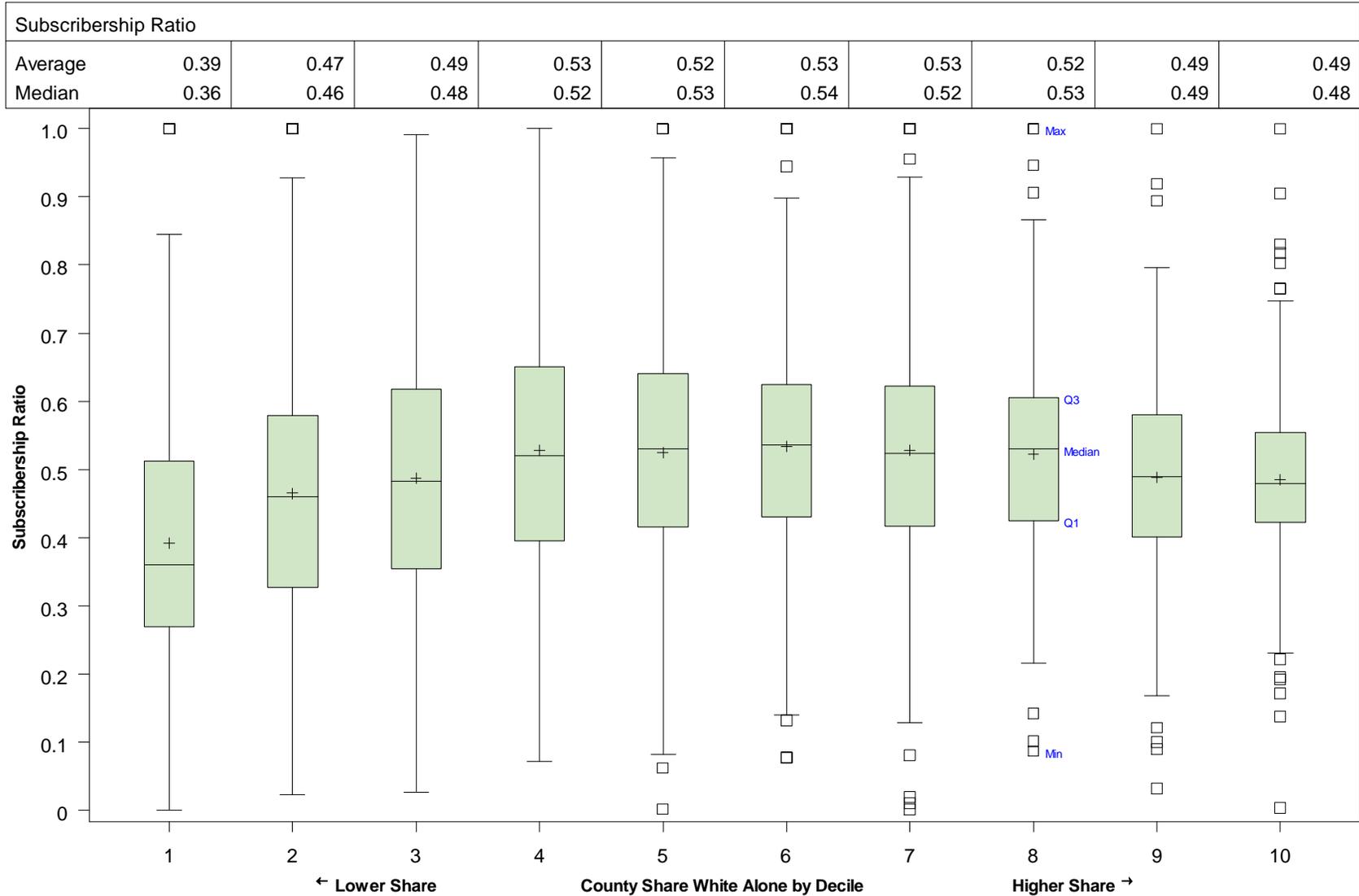
**Chart 25**  
**Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households**  
**by Share White Alone in Deciles as of December 31, 2009**  
**(County Data)**



This chart shows cumulative and non-cumulative subscribership ratios by the share of county population white alone in deciles. Counties were grouped into deciles based on the share of the county population that reported their race as white alone. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across counties in the decile to the sum of households across counties in the decile. The height of the blue, cumulative bar for decile N represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction across all counties in decile N and all deciles less than N, to the number of households in all the counties in decile N and deciles less than N.

Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2010); and Census 2000 (Race).

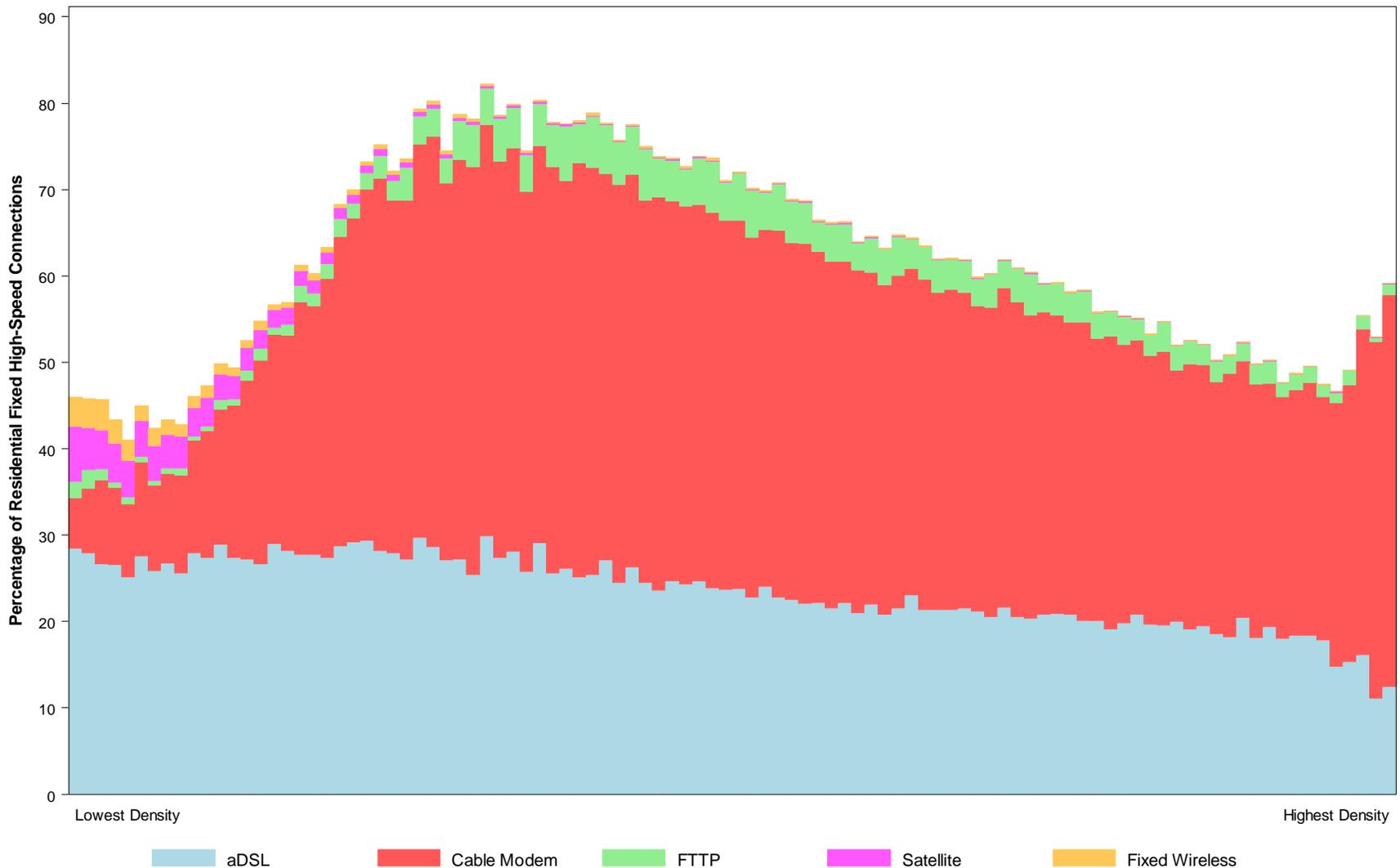
**Chart 26**  
**Subscriberhip Ratio Distributions by Share White Alone (in Deciles) as of December 31, 2009**



Note: Each box plot shows the distribution of residential subscribership to connections over 200 kbps in at least one direction for counties in each race decile. Counties were grouped into deciles based on the share of the county population that reported their race as white alone. Some of the features are labeled, but note also that + denotes the position of the average residential subscribership ratio taken across all counties in the decile; ⊥ is the minimum observation above  $Q1-1.5(Q3-Q1)$ ; T is the maximum observation below  $Q3+1.5(Q3-Q1)$ ; and □ is a data point beyond  $Q1-1.5(Q3-Q1)$  or  $Q3+1.5(Q3-Q1)$ . Ratios greater than 1 were set to 1.

Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2010); and Census 2000 (Race).

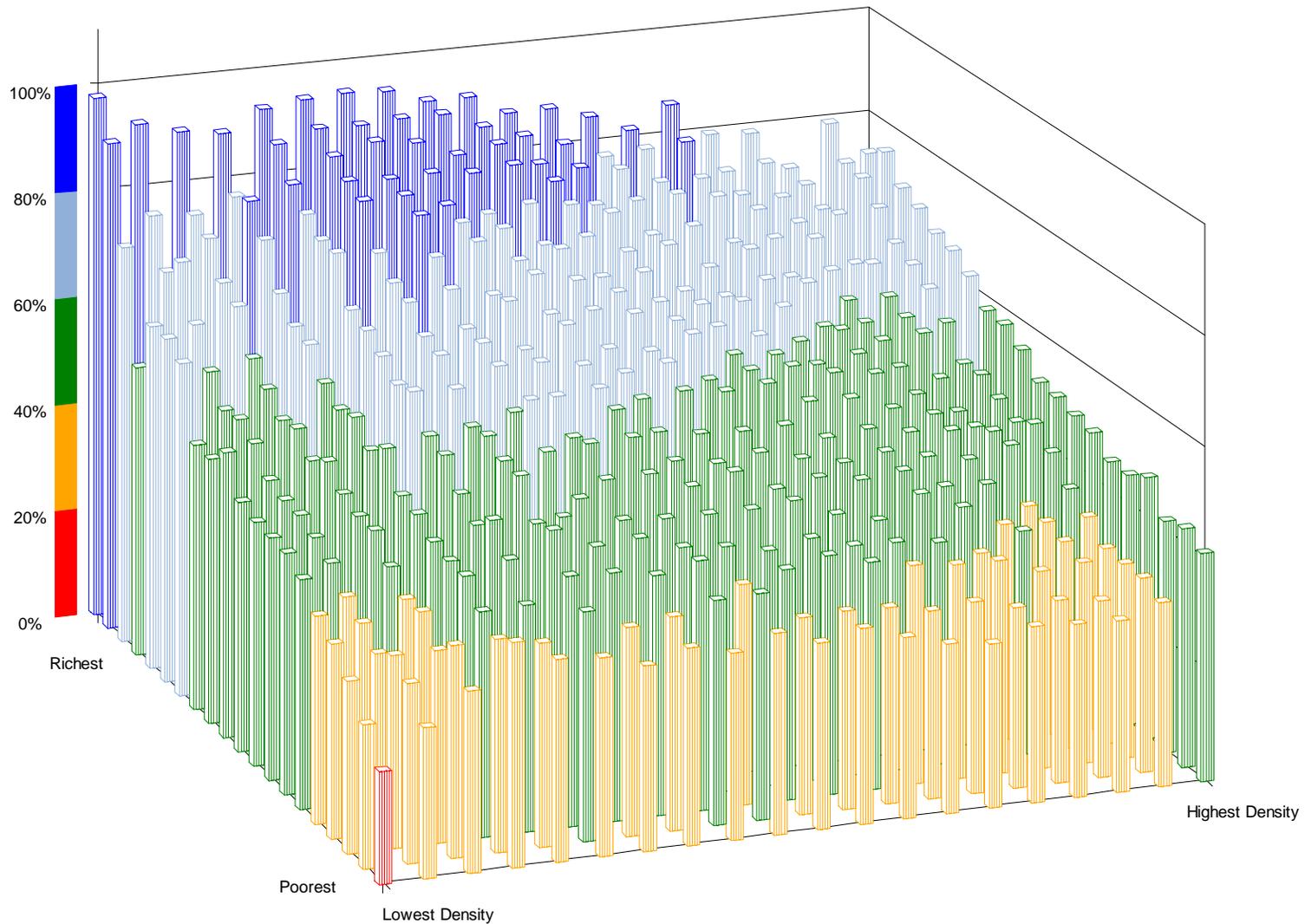
**Chart 27**  
**Subscribership Ratios by Technology and Tract Household Density as of December 31, 2009**  
**(Residential fixed connections over 200 kbps in at least one direction)**



This chart shows subscribership ratios by technology and household density. Tracts were grouped into 100 density percentiles based on households per square mile, calculated as the ratio of estimated tract households in 2010 to tract land area from the Census Bureau. For each percentile, the height of the bar represents the household-weighted average ratio of residential fixed connections to households across tracts in the percentile.

Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2009); and Census 2000 (Tract land area).

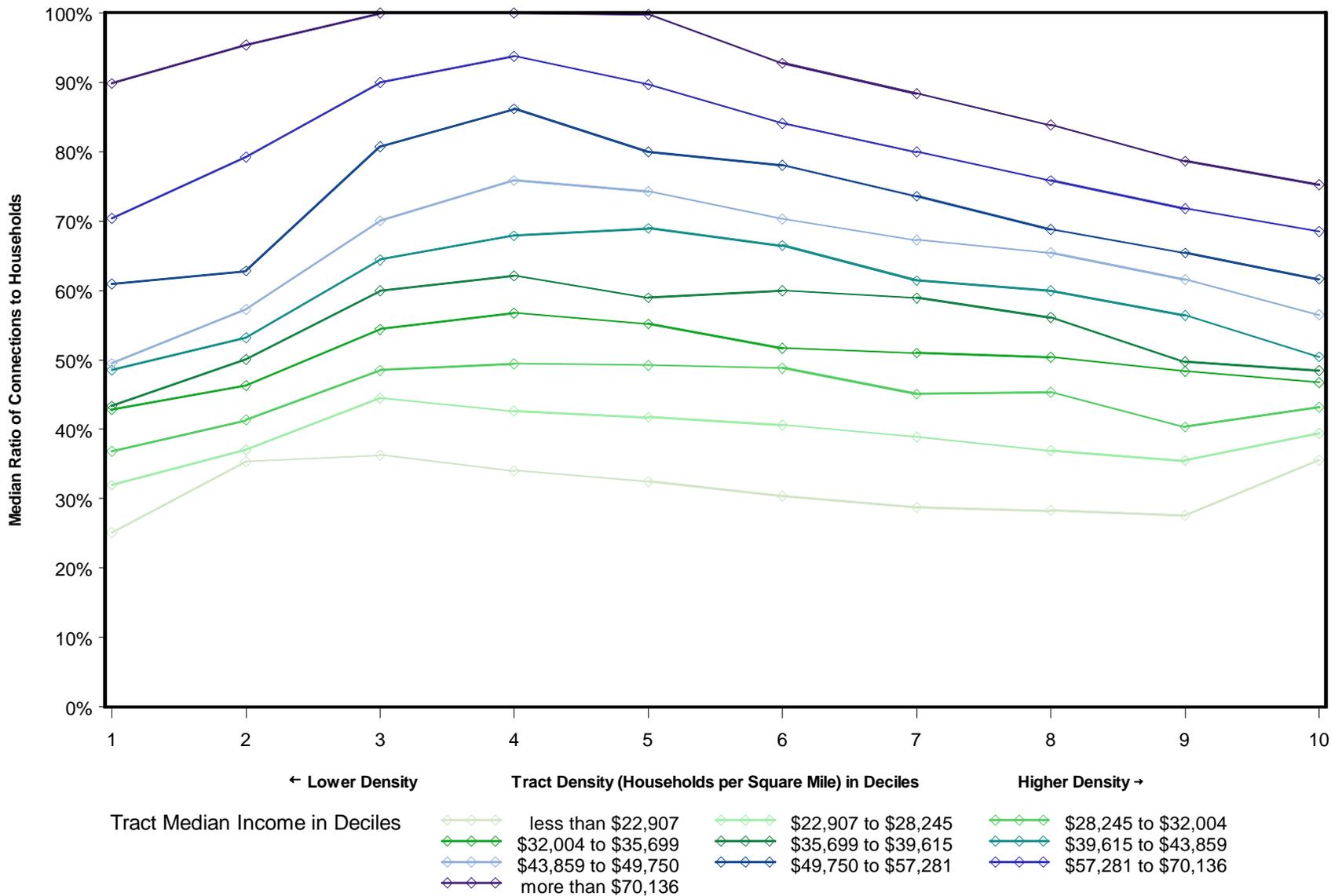
**Chart 28**  
**Average Subscriberhip Ratios by Income and Household Density as of December 31, 2009**  
**(Residential fixed connections over 200 kbps in at least one direction by Tract)**



This chart shows subscriberhip ratios by household density and income quantiles. Tracts were grouped into 400 density/income quantiles based on households per square mile, calculated as the ratio of estimated tract households in 2010 to tract land area from the Census Bureau, and median household income. For each quantile, the height of the bar represents the household-weighted average ratio of residential fixed connections to households across tracts in the decile.

Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2009); and Census 2000 (Tract land area, Median household income).

**Chart 29**  
**Median Ratios of Residential Fixed Connections over 200 kbps in at Least One Direction to Households by Income and Density**  
**Tract Data as of December 31, 2009**



Sources: FCC Form 477, Part VI; Geolytics 2010 Block-Level Estimates (Households in 2010); and Census 2000 (Median household income in 1999).

## Technical Notes

### General

Detailed information about FCC Form 477 reporting requirements is available at <http://www.fcc.gov/form477/>.

Wherever a number of providers is cited in this report, multiple Form 477 filers within a holding company structure count as one provider.

Form 477 collects information about Internet access connections in service to end-user locations that are advertised to deliver information to and/or from the end user – that is, in at least one direction – at transfer rates (“speeds”) above 200 kilobits per second (kbps). Information is collected about connections in 72 speed tiers (nine upstream tiers and eight downstream) defined by ranges of upstream speeds and downstream speeds. Connections are further categorized by the technology employed by the part of the connection that terminates at the end-user location.

“End users” are residential, business, institutional, or government entities who use services for their own purposes and who do not resell such services to other entities. Facilities-based providers report information about connections they provide directly to their own end-user customers and also connections that they provide to Internet Service Providers for resale to end users. For Form 477 purposes, the facilities-based provider of a connection is the entity that owns the portion of the physical facility that terminates at the end-user location, obtains an unbundled network element (UNE), special access line, or other leased facility that terminates at the end-user location and provisions/equips it as a connection that transfers information at rates over 200 kbps in at least one direction, or provisions/equips a wireless channel that transfers information at rates over 200 kbps in at least one direction to the end-user location over licensed spectrum or over spectrum that the provider uses on an unlicensed basis.

The mutually exclusive Form 477 technology categories are: asymmetric Digital Subscriber Line (“aDSL” in this report), symmetric Digital Subscriber Line (“sDSL”), other wireline, cable modem, optical fiber to the end-user premises (“FTTP”), satellite, fixed wireless (using licensed or unlicensed spectrum), mobile wireless (using licensed or unlicensed spectrum), electric power line, and all other (which is included to capture deployment of additional technologies over time). In the Form 477 data collection, aDSL-based services delivered over fiber-to-the-node architecture are reported in the aDSL category. The other wireline category comprises T1/DS1, T3/DS3, and other copper-based connections, not elsewhere categorized, that deliver *Internet access* service at the end-user location. Ethernet connections delivering Internet access service are reported in the other wireline category if the connection terminates over copper and in the FTTP category if the connection terminates over fiber. Connections deployed over hybrid fiber-coax (HFC) architecture are reported in the cable modem category. Wireless ISPs (“WISPs”) report in the fixed wireless category if providing service to dispersed, fixed end-user locations and report in the mobile wireless category if providing a commercial service that can be received at any location within a service footprint. Wireless local area networks (such as Wi-Fi hotspots) that only enable local distribution and sharing of a premises connection are not included, although the shared premises connection is included.

Numbers of connections presented in this report are not adjusted for the number of persons at a single end-user location who have access to, or who use, the Internet access services delivered over the connection to that location.

Numbers of residential connections are estimated based on the total connections and percentage-residential connections information reported on Form 477.

### **Census tracts**

Starting with data as of December 31, 2008, facilities-based providers of reportable fixed-location Internet access connections must report connection counts and percentage residential information at the census tract level of detail. Because of the inherent mobility of their service, facilities-based mobile wireless providers do not report subscriber counts by census tract. Instead, they report the census tracts in the state that best represent the areas where service is available over the provider's own network, for each of the speed tiers in which the provider offers service.

For the 2000 decennial census, the Census Bureau assigned a default census tract code of 000000 to some coastal and Great Lakes water and territorial sea. These default-code tracts are not included in the statistics presented in this report, which therefore summarize data for 66,287 census tracts.

According to GeoLytics, Inc. estimates for 2009, fewer than 200 census tracts have population but no households because the population resides in group living quarters. For the purpose of estimating residential subscribership rates by census tract, we assume these census tracts have no reportable *residential* Internet access service because persons residing in group quarters would have Internet access over a business connection provided to the operator of the group quarters. Therefore, these census tracts are included in the "zero" column.

### **Decline in reported mobile wireless connections between June 2008 and December 2008**

Changed reporting instructions starting in December 2008 caused a one-time decrease in the reported number of mobile wireless Internet access service connections, from about 60 million in June 2008 to about 25 million in December 2008. For reporting periods through June 30, 2008, Form 477 had instructed mobile wireless providers to report the number of subscribers whose mobile device (such as a wireless modem laptop card, smartphone, or handset) was capable of sending or receiving data at speeds above 200 kbps. The Commission found these instructions insufficiently precise to enable it to determine, from the reported data, the number of subscribers making regular use of Internet access service above 200 kbps as part of their mobile service package. Starting with the December 31, 2008 data, therefore, Form 477 requires mobile wireless providers to report the number of subscribers that have a capable device (as discussed above) for which the subscription includes a data plan for transferring, on a monthly basis, either a specified or an unlimited amount of data to and from Internet sites of the subscriber's choice, and *excluding* subscribers whose choice of content is restricted to only customized-for-mobile content (for example, text and multimedia messaging, or the capacity to download ringtones and games).

Starting with the December 31, 2008, data, providers also must report, explicitly and separately, total subscribers with a device capable of sending or receiving data at speeds above 200 kbps, irrespective of the service plan purchased. The number of such devices reported for December 2008 was about 86 million. That figure is not directly comparable to mobile wireless connections reported for June 2008 or earlier reporting periods, however, because individual providers – to a varying and largely unknown degree – included or excluded subscribers with service plans for less than full Internet access in the earlier data.

Finally, the Form 477 modifications adopted for the December 31, 2008, and later, data specify how mobile wireless providers should distinguish between residential subscribers and other subscribers, and some of these providers consequently reported a larger share of residential subscribers than they had reported for earlier dates.

### **Ratios of residential fixed-location connections to households that exceed 100%**

Starting with data as of December 31, 2008, information about connections over fixed-location technologies must be reported for individual census tracts. This allows us to estimate the share of households with fixed-location connections in individual census tracts by taking the ratio of the reported number of fixed-location residential service connections to the estimated number of households. In the year-end 2009 data, we continue to find “outlier” estimates at or above 100% and to find that the number of outliers is substantially reduced when estimates are made for individual counties rather than for individual census tracts.

Possible explanations of ratios at or above 100% include (1) geocoding misallocations of service locations to census tracts; (2) proper allocation of connections to the county level by some filers, but improper allocation of all connections to a single tract in the county; (3) possible overestimation of residential connections in service plans for which the customer base is primarily residential; and (4) connections at seasonally or occasionally occupied housing units, such as vacation homes, while the household is counted elsewhere. The numbers of households in census tracts that were used to generate the estimated ratios are themselves estimates (for 2010, from GeoLytics, Inc.), which could have an independent effect.

### **Maps showing number of providers by census tract**

Readers of previous reports in this series may note certain differences in the provider-count maps in this report as compared to maps for June 30, 2008 and earlier dates, which showed the number of providers by 5-digit geographical ZIP Code. The ZIP Code-based maps counted (at the holding company level) each provider with any fixed-location connections (wired, terrestrial fixed wireless, or satellite) reported for the ZIP Code and also any mobile wireless service provider who listed the ZIP Code as part of its service area. By contrast, in this report we provide separate maps for providers (counted at the holding company level) of fixed-location connections and for mobile wireless providers. Also, we present maps showing the number of providers that reported any *residential* fixed-location connections, thereby excluding any providers of exclusively business fixed-location connections in the census tract.

### **Maps showing residential subscribership rates by census tract**

The two maps based on estimated Internet access connections over 200 kbps in at least one direction per 1,000 households (that is, estimated household subscribership, or *adoption*, rates) are not comparable to ZIP Code-based maps developed from FCC Form 477 data for June 30, 2008 and earlier dates because *numbers* of connections were never reported for individual ZIP Codes. Readers should note that these two maps (1) exclude all connections identified as business connections and (2) necessarily exclude residential mobile wireless connections (which are reported for the state but not for individual census tracts).

## Glossary

<b>Term</b>	<b>Definition</b>
aDSL	Asymmetric Digital Subscriber Line: A digital local loop typically using copper facilities and providing greater bandwidth in one direction than the other.
Cable modem service	A service which offers customers access to the Internet over a cable system.
Downstream speed	Speed of transmission from the Internet to the end user.
End users	Residential, business, institutional, or government entities who use services for their own purposes and who do not resell such services to other entities.
Facilities-based provider	Entity that owns the portion of the physical facility that terminates at the end-user location, obtains an unbundled network element (UNE), special access line, or other leased facility that terminates at the end-user location and provisions/equips it as a connection that transfers information at rates over 200 kbps in at least one direction, or provisions/equips a wireless channel that transfers information at rates over 200 kbps in at least one direction to the end-user location over licensed spectrum or over spectrum that the provider uses on an unlicensed basis.
Fixed wireless	A radio communication service between specified fixed points.
Fixed-location technologies	All technologies other than terrestrial mobile wireless.
FTTH or FTTP	Fiber to the Home (Premises): The fiber deployment architecture in which optical fiber is carried all the way to the home (premises).
Internet access service	Service that provides end users access to the Internet.
ISPs	Internet Service Providers: Companies or organizations that provide Internet access service (see above).
iVoIP	Interconnected Voice Over Internet Protocol: A service that enables real-time, two-way voice communications; requires a broadband connection from the user's location; requires Internet-protocol compatible customer premises equipment; and permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.
Mobile wireless service	A radio communication service between mobile and fixed stations, or between mobile stations.
Mobile wireless provider	Provider of mobile wireless service (see above).
Other wireline	All copper-wire based technologies other than DSL technologies; Ethernet over copper and T-1 are examples.
Power line	Internet access service delivered over electric power transmission lines.
Satellite communications	A telecommunications service provided via one or more satellite relays and their associated uplinks and downlinks.
sDSL	Symmetric Digital Subscriber Line: DSL technology that provides equal bandwidth for both uploads and downloads.

Speed tiers	Sub-groupings defined by ranges of upstream speeds and downstream speeds.
Upstream speed	Speed of transmission from the end user to the Internet.
Wi-Fi hotspot	Wireless Fidelity: Generic term referring to any type of IEEE 802.11 wireless network. A hotspot is a small geographic area in which users can gain access to a Wi-Fi network which in turn connects to the Internet.
Wireless service	Telephone, Internet, data, and other services provided to customers through the transmission of signals over networks of radio towers.
Wireless service provider	Provider of wireless service (see above).
Wireless telecommunications	Any means of electronic data transfer using electromagnetic means, most commonly radio waves.
WISP	Wireless ISP: A company that provides end users with wireless access to the Internet, most commonly by using radio spectrum designated for unlicensed use.
WLAN	Wireless local area network: A WLAN uses radio waves to connect user devices to a local area network (LAN), thereby extending an existing wired LAN.

# Customer Response

Publication: *Internet Access Services: Status as of December 31, 2009*

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